THE BUILDER

Incorporating

ARCHITECTURE & THE BRITISH ARCHITECT

THE BUILDER HOUSE, CATHERINE STREET, ALDWYCH, LONDON, W.C.2. Telephones : Temple Bar 6251-2-3-4

VOL. CLXXXI SEPTEMBER 7, 1951 No. 5664

PRINCIPAL CONTENTS

ARTICLES	PAGE
NEW TOWN OF ALVALADE, LISBON	313
TOWN AND COUNTRY PLANNING CONFERENCE	316
NOTES AND NEWS	325
CORRESPONDENCE	326
BOOKS	328
OLD ARCHITECTURE OF PARIS	329
CLOSED SHOP POLICY OF DURHAM C.C.	329
HIGHER DENSITY BUILDING	329
OBITUARY	329
PRAISE FOR "PREFABS"	330
ARGON ARC WELDING	330
OBSTACLES TO HOUSE-BUILDING	330
ARTIFICIAL LIGHTING IN SCHOOLS	331
MINING SUBSIDENCE	331
BUILDING COURSES IN 1951-52	331
THE SOFTWOOD POSITION	332
HOUSING PROGRESS ANALYSED	332
NEW SOURCES OF CEMENT IN HOLLAND	332
PLASTERBOARD SHORTAGE	332
PRICES CURRENT OF MATERIALS	333
NEWS IN BRIEF	334
RATES OF WAGES	335
THE SCOTTISH BUILDER	336
TRADE NEWS	337

ILLUSTRATIONS

THE CHURCH OF ST. LEONARD, NORWOOD, SHEFFIELD: By Leslie T. Moore	317
ICKNIELD COUNTY SECONDARY SCHOOL: By F. Oliver, K. Seymour and W. Victor Smith	319
SCHEME FOR A 26-BED NEURO-SURGICAL HOSPITAL UNIT: By Gerald F. Jones and Sykes	323

THIS WEEK'S NEWS

THE LONDON BUILDERS' CONFERENCE is the subject of three more letters in our correspondence columns this week. *p.* 326

SUMMING up the progress of the housing programme for 1951, *the National Council of Building Material Producers state that there was little encouraging to report. "With only just over* 92,000 *houses finished in the first six months of the year, prospects of achieving the* 200,000 *programme are not bright . . ."* *p.* 332

THE 1950-51 *REPORTS of the East Kilbride and Glenrothes Development Corporations just published show that considerable progress has been made. The capital expenditure for the year at East Kilbride was* £424,004, *and that at Glenrothes,* £144,728. *p.* 336

APPRENTICESHIP IN THE BUILDING INDUSTRY

UNLIKE many other industries in this age of mechanisation and mass-production, building still remains fundamentally a craft industry; in fact it consists of a number of diversified and highly skilled crafts. Moreover, unless evolution and force of circumstances vitally change the social and economic structure of this country with a consequent wider acceptance of standardised utility building it would appear that there will be a continuing need in the foreseeable future for thoroughly trained craftsmen in all the traditional trades. Even in the United States of America, that home of streamlined productive effort, it is an accepted fact that a high standard of craftsmanship is essential in the building and construction industry, and it is believed that over 75 per cent. of craftsmen in the American industry obtain their journeyman's ticket by way of apprenticeship. In this connection the report of the Vocational Training Team which recently visited America is awaited with great interest by all who are connected with apprenticeship in the United Kingdom.

It cannot be gainsaid that since the decline of the great craft guilds and the virtual extinction of the old apprenticeship system during and after the Industrial Revolution, the building industry has sadly neglected the education and training of those who intend to spend a lifetime within its ranks, but happily there has recently been a great awakening to the vital need for a sustained revival of a well-ordered system of apprenticeship.

The training of personnel for the building industry in this country has, during the last decade, attracted widespread attention and has been the subject of much constructive thought and advice, and although the industry has been subjected to criticism it is also to be congratulated upon its expressed intention to place the training of apprentices in the highest priority of its endeavours and also upon the undoubted success which has attended its efforts since the launching of the National Joint Apprenticeship Scheme in 1945, and this notwithstanding adverse post-war conditions which have militated against craft training on building sites.

However, it is widely recognised that there is still a great deal of leeway to be made up if the accepted annual recruitment target of 22,000 indentured apprentices is to be attained. There are still serious shortages in certain trades, such as bricklayers, masons and plasterers, and if the industry's progress and service to the community are to be maintained, a crippling shortage of competent operatives in these trades must be avoided at all costs.

Having regard to the magnitude and variety of the building programme with which we are confronted, it would appear that the two most important aspects of apprenticeship are, firstly, the recruitment of an adequate number of boys, and secondly, the blending in their training of a readiness and ability to acquire new techniques with an understanding and appreciation of the traditional art and skill inherent in each craft. In individuals, it may not be easy or simple to blend these qualities happily or usefully; nevertheless, the need of the industry is for apprentices and craftsmen representing the best of the old and the best of the new in building technique. This again makes it important that all firms, whether large or small, whether national contractor or small maintenance and jobbing builder, should think of their separate responsibilities, and not merely make special efforts to recruit, but to train the apprentices in their own ways, relying upon technical education to form the common basis.

Unfortunately, during recent months, since the announcement was made by the Ministry of Works that the Apprentice Master Scheme (originally entitled the Emergency Apprentices Training Scheme) is to be discontinued in March, 1952, the impression has been gained in some quarters that systematic apprenticeship as a whole is coming to an end. This of course is entirely erroneous. On the contrary, there exists today wider appreciation of the vital necessity for training an adequate number of craftsmen and also a greater determination on the part of both employers and operatives to recruit an increasing number of young men under the National Apprenticeship Scheme. It should be remembered that the Apprentice Master Scheme was initiated by the Building Apprenticeship and Training Council as an emergency measure only, to provide preliminary training in areas where there was an immediate difficulty in placing all the boys who desired to enter the industry, but where there was reasonable prospect of normal apprenticeships being available in the near future. One great advantage of the Apprentice Master Scheme was that the boys were encouraged to try their hand at a number of trades, the result being a lessening of the usual

prejudice against the trowel-trades which in turn resulted in a more balanced intake.

During the past six years since the National Joint Apprenticeship Scheme was inaugurated, a great deal of valuable experience has been gained, which shows that the system is fundamentally sound, and it now behoves the industry to give consideration to changes in points of detail which may be desirable, bearing in mind the continuing shortage of certain materials, the need for maximum production and the scarcity of suitable types of work for training purposes. For example, a more flexible interchange of apprentices between employers; provisions in the indentures for shortening or lengthening the period of training according to individual progress or to the needs of certain trades; greater flexibility and autonomy for local apprenticeship committees in administering the scheme; for the training of apprentices in more than one trade; and the acceptance of adult apprentices.

At the same time the industry should not be stampeded by the present unpromising economic outlook into a general dilution of the standard of building and training, let it rather have faith in the future when normal building—the building of churches, hospitals, civic centres, etc.—will surely return, together with a regained appreciation of things of beauty, grace and charm.

To remember and value the best of our wonderful English tradition of building, and the skill and love of craftsmanship which went into that building, is not enough. The dominating theme in our industry to-day is production; apprentices must therefore be taught not only to do a job well, but to carry it through with the minimum effort that ingenuity can evolve and without uneconomic wastage of time and material.

The Minister of Works has recently accepted the recommendations contained in the report issued by the Building Apprenticeship and Training Council which draws attention to the serious shortage of properly indentured apprentices. The industry is urged to stimulate recruitment and employers are specially asked to give fuller support to the National Apprenticeship Scheme. No doubt the industry will respond to these requests to the best of its ability notwithstanding the unsuitability of current work for training purposes, but it must be realised that there are certain fundamental factors which have an adverse effect upon the traditional apprenticeship system. These are a lack of continuity of work of sufficient variety and quality in the hands of firms of the right type and size who have their roots in the industry and who are concerned for its future prosperity and efficiency; the unlimited and indiscriminate nature of the competitive system which has the tendency of placing work in the hands of firms who adopt low standards and who are both unwilling and incapable of training apprentices; unqualified registration of building firms; an ever increasing use of labour-only sub-contracting on a piece-work basis under the guise of payment-by-results or bonusing; and lastly, lack of recognition by Government departments, local authorities and the allied professions for the firms who do undertake the obligation and heavy responsibilities of indenturing apprentices.

Some of these matters were dealt with in the Simon Report on the Placing and Management of Building contracts, but unfortunately this report, issued during the war, has been forgotten, and its recommendations have not been implemented.

FINANCIAL PROBLEMS OF PLANNING

JUST before Parliament rose for the summer recess, the Parliamentary Secretary to the Ministry of Local Government and Planning made an announcement which deserves considerably wider publicity. It was that the Government have decided to introduce legislation to give financial help to borough and district councils who undertake major expansion in order to relieve overcrowding in congested areas. This financial encouragement for expanded towns, said Mr. Lindgren, would reinforce the policy of building new towns in order to enable overcrowded population and over-concentrated industry to be dispersed.

This is welcome news, so far as it goes. The dispersal of population and industry stands high among the objectives of town and country planning, and it is unfortunate that the limitations on capital investment have prevented more rapid progress with the building of new towns. The building of new towns, however, is not likely of itself to be sufficient; the finding of sites for new towns is a matter of some difficulty and even when a site has been found there is a heavy initial outlay on essential services. The present restrictions on capital investment thus provide an added reason for making a start now on the expansion of suitable existing towns where the problems of providing essential services would not be so acute. We hope therefore that the promised legislation will be passed as soon as possible, and that in the meantime some preparations will be made for beginning on actual schemes of expansion.

The Government's announcement, however, touches on only one aspect of the financial problem created by the dispersal of population and industry. Another and far more difficult aspect is the loss of rateable value suffered by what may be called the "exporting" authorities. The loss of rateable value to the London and Middlesex county councils by the removal of population and industry to new towns beyond the Green Belt is likely to be enormous, if the policy of dispersal is really made to work. The same problem will almost certainly arise in other parts of the country though perhaps to a less dramatic extent, especially as many of the "exporting" authorities will be county boroughs; indeed we may before long see the end of the policy of creating county boroughs financially and administratively separated from the surrounding areas. The answer presumably lies in a reform of the present structure of local government; this unfortunately is a subject on which nobody seems to be agreed, and when it was debated in the House of Commons a few weeks ago Mr. Dalton said it could not be dealt with in this Parliament. It must, however, be tackled sooner or later, and in our view the sooner the better.

Another financial problem of a somewhat different character is the liability to development charge which arises when a firm moves to a new town or a development area. The liability to development charge on the new site or premises is hardly an encouragement and may even be a deterrent to firms who wish or are asked to move. There seems a strong case for allowing such firms, so to speak, to take the existing use value of their previous site or premises with them. The Central Land Board need not lose by such a transaction because the existing use value of the old site could then be cancelled. Indeed, such an arrangement would be in the interests of good planning, because at present there is nothing to prevent another firm moving into the old site or premises without any need to secure planning permission or to pay development charge—unless the local authority are prepared to pay heavy compensation. The present system is little short of stupid, and here again the sooner something is done the better; fortunately in this case the issues are not nearly so complex and controversial, although they do involve a reconsideration of the principles of the development charge system.

Until these various problems are tackled we fear that decentralisation will give rise to too many stresses and strains to be a real success. Because it is imperative in our judgment that the policy of dispersal should be a success, we hope that these problems will soon be dealt with. The fact that an issue is difficult and even controversial ought not to be a reason for shelving it; rather it should be a reason for facing it early while time permits of thorough investigation and consideration.

Site plan showing part of the new development area to the north of Lisbon.

NEW TOWN OF ALVALADE, LISBON

An Impressive Portuguese Venture that may have Useful Lessons for this Country

By ARTHUR W. KENYON, CBE, FRIBA, MTPI

WE think of new towns as belonging to this country, so it is surprising to find a complete new town being developed on the northern boundary of Lisbon. Although at first it might appear to be only a suburb, by its magnitude and completeness it will be a town in every sense, providing for a population of 45,000 and covering an area of 570 acres. This represents a fairly intensive development of 80 persons to the acre.

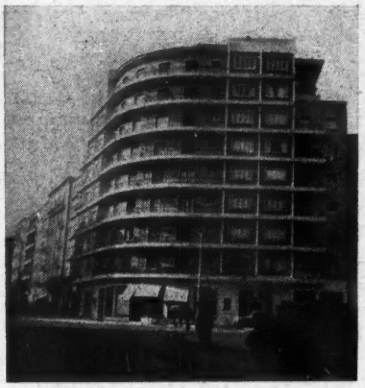
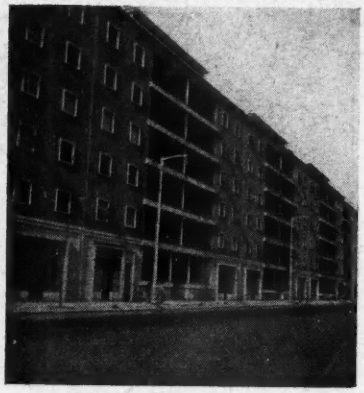
The plan is set out in the "grand manner," with wide, tree-lined boulevards and with five *places* at the junctions of the main roads and with important buildings terminating the long avenues. The principal roads are developed as shopping streets with individual shops rather than great stores and behind these shops, approached through archways, are groups of flats rising sometimes to eight storeys. For the lower-storeyed flats great use has been made of culs-de-sac and quadrangles, quite intimate and compact, connected together by minor roads. The smaller two-storeyed houses are mostly in pairs laid out on a geometric road pattern and are sporadic in design and somewhat uninteresting in character. The schools are well sited and form part of the grouping of the buildings, which seems to bring them into the life of the community.

AIR OF SPACIOUSNESS

The first impression one gets is that of spaciousness, of well-laid-out public gardens and open spaces, lavishness in width of streets, with broad well-kept verges and magnificent lawns and terraces. The main buildings terminating the vistas are often approached by fine flights of steps, elevating them from the streets. The gardening of the open spaces is a striking feature of the town.

What of the buildings themselves? Of the completed part of the town, which is considerable, there is a feeling of satisfaction. Someone appears to have decided what to do and has done it. Where he wanted to go up 10 storeys as a terminal feature he has done so, and there is, therefore, a feeling that the town has been designed as a whole and that individual buildings have not been designed in isolation; everything, in fact, seems to have been done with a purpose.

In the principal streets a skyline has been kept, varying only where it is wanted to give emphasis. The shop fronts in the main streets are not continuous, being broken by banks, entrances to offices over and by commercial premises. The shops are thus in groups, which is architecturally agreeable and, one assumes, satisfactory to the shopkeepers.

Three examples of blocks of flats. Note (left) the dominant tower feature (centre) the shops at ground level and (right) the individual balconies facing the street.

FLATS WITHOUT LIFTS

The tall blocks of flats lying behind the streets give the impression of being crowded. Many have open outside staircases which are no doubt suitable to the climate. There appears to be an absence of lifts and people (who have not lost the art of walking) ascend by these staircases to the eighth floor. The great majority of the flats, however, are four-storeyed and possess a similarity in design, but vary in detail quite considerably.

Perhaps one of the causes giving a feeling of uniformity throughout the town is the external finish of the buildings, which is of stucco with warm coloured stone dressings and with ample and richly-designed stone doorways and other features. Use has been made of colour on the stucco, which gives a gay appearance, but the cruder colours do not appear to be lasting too well.

A typical block of flats.

The flats themselves are not greatly different from what we accept in this country, although the plans are somewhat freer and more open. The living space is generally an all-purpose room with bedrooms, etc., opening from it and thus avoiding wasteful passages. This room is sometimes entered directly off the main staircase without lobby or passage. The kitchen is often divided only by a curtain from a living-space, but in other cases it is a separate compartment and very well equipped. The w.c. space is slightly more ample in size than we are accustomed to and contains a lavatory basin. It is placed on the outside wall. The shower bath, 3 ft. by 3 ft., takes the place of the bath, and the space allowed for this and the w.c. is considerably less than that for our bathroom and w.c. The bedrooms are smaller in area than we demand, the staircases are not ample. The flats are centrally heated and have no fireplaces; they are generally "staircase approached," with a staircase leading to two flats.

SITE AND LAYOUT

The site is situated to the north of Lisbon on high ground and is surrounded by vast stretches of open ground of which the most important are the landing grounds surrounding the Airport, the Campo Grande and playing fields which stretch north and south of the Campo Grande. There are four main roads dividing the total area of the plan into eight sections, or neighbourhoods, which are again divided up by local streets.

The centres of public interest, such as open spaces, markets, business premises, public buildings, etc., have been distributed in such a way as to make them easily accessible from each neighbourhood without crossing the main fast traffic routes.

Generally, each neighbourhood has as its focal point a school round which the dwellings are set out. These dwellings

One of the principal intersections, showing the grandeur of the conception.

have been arranged so that no family shall be too far from a school, the usual distance being about one-third of a mile. Each tenant has a small garden for his private use, the remaining land being set out as communal pleasure grounds for the tenants, *en bloc*.

It is very interesting to note that it was not considered advisable to put families of the same income group and class together, but it has been found best to encourage people of varying incomes and in different walks of life to live in the same area. This was regarded as necessary to maintain a balanced economy.

Some details of the plan are given below :—

	Acres
Total open space	81.51
Area reserved for public buildings	61.75
Area reserved for local light industries, etc.	14.62
Area for public highways	91.39
Area for dwellings	318.63
TOTAL	567.90

Although public buildings are for the use and convenience of all members of society, it was found best to group the large buildings together. The plan envisages two light industrial zones to the north and south of the centre of the development area. The commercial zones are easily accessible and the business premises are on the ground floor with dwellings over.

Amongst the public buildings and institutions of general interest mention should be made of the following :—

1. Schools.
2. Technical Institutes—of which there will be two, one for girls and one for boys, with playing fields and tree-lined quadrangles.
3. The Church.
4. The Community Centre.
5. Buildings for public services.
6. Markets—two, serving both the commercial and industrial regions.
7. The Civic Centre.
8. Administrative offices.

Other buildings are : Central Post Office ; railway stations (two) ; police stations ; municipal offices ; craft centres; public halls ; nursery schools ; banks ; medical consultation centres ; garages ; cinemas, etc.

PUBLIC TRANSPORT

The electric tramways will eventually be replaced by motor buses and railways. There are to be two stations and the new Metro planned for the City of Lisbon is designed to include the needs of these areas.

DWELLINGS AT ECONOMIC RENTS

To meet the needs of the different social categories the dwellings were divided into three series, sub-divided again into three types according to the number of bedrooms. Accordingly nine different types were studied, and were built in the ratio necessary to accommodate the first 2,066 families. These consist of 302 buildings of three-four storeys which will complete districts 1 and 2 of the general plan.

These projects have been given prolonged and minute study by the authorities. Consideration has been given to provide for the economic use of building materials and methods of construction. One of the essential points was to prevent any waste of space in order to get maximum density of the habitable area in each dwelling, and to keep the cost as low as possible. For example, different types of plans were considered and marks awarded according to the good and not-so-good features. Such items as the following were investigated :—

(*a*) Orientation.

(*b*) Isolation of rooms.

(*c*) Illumination.

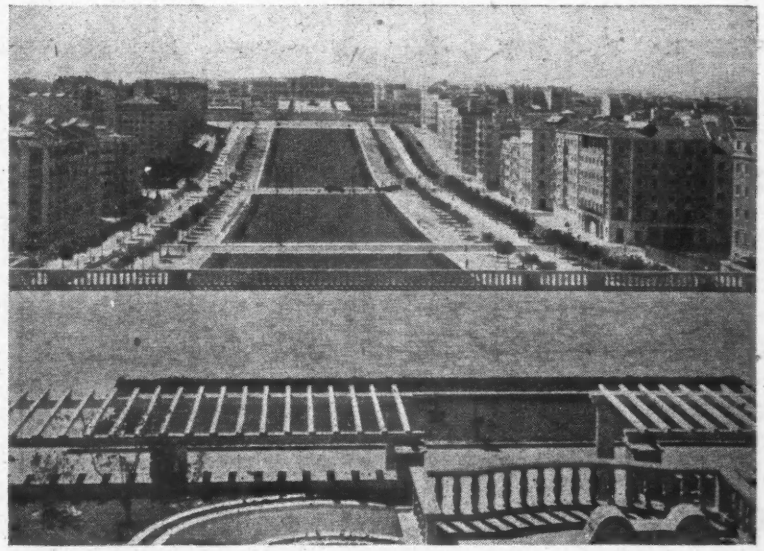
(*d*) Relative position of rooms with one another.

(*e*) If w.c. separate from, or combined with, shower.

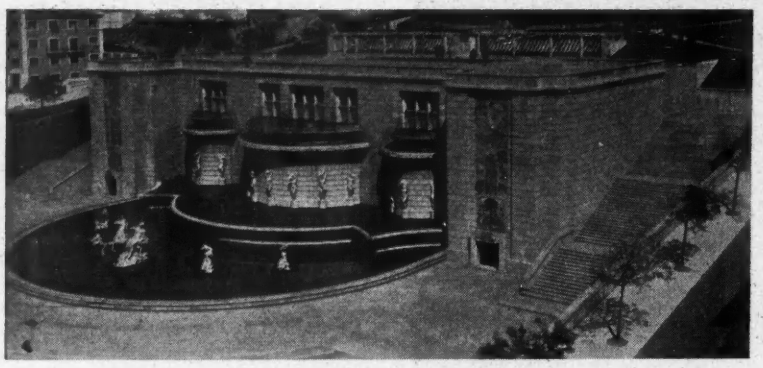
(*f*) If position of doors is suitable to furniture.

With the care thus taken it is considered that maximum comfort and convenience have been attained.

As for the architectural conception, the general principle has been to preserve aesthetic values by using a simple but dignified style. Every care has been taken not to sacrifice these aesthetic values, even though economic considerations restricted the use of expensive materials.



Alameda D. Afonso Henriques—one of the main squares, with a fountain in the foreground and a technical school in the background.



The monumental fountain and steps at the end of Alameda D. Afonso Henriques.

The methods of construction and productivity have been the subject of considerable research and the results have enabled the municipality not only to reduce costs, but also to improve building techniques.

An experimental group of buildings was erected to enable these techniques to be thoroughly investigated, and from the lessons learned in these experiments details of design were carried out.

The contract signed at the end of 1946 with the Federation des Caisses de Prevoyance (Housing Trust) under the terms of the S.R.O., ensured the success of the municipal plan for building houses at economic rents. Under this contract, the federation made available to the municipality the necessary funds amounting to £1,500,000. The buildings to be erected, including those in an experimental group, would be the property of the federation who would distribute the tenancies to their affiliated members. The municipality, however, reserved the right to nominate the tenants for 60 per cent, of the total number of dwellings, two-thirds of this number being kept for affiliated members of the federation whose existing homes had had to be demolished to allow for essential rebuilding in the centre of Lisbon.

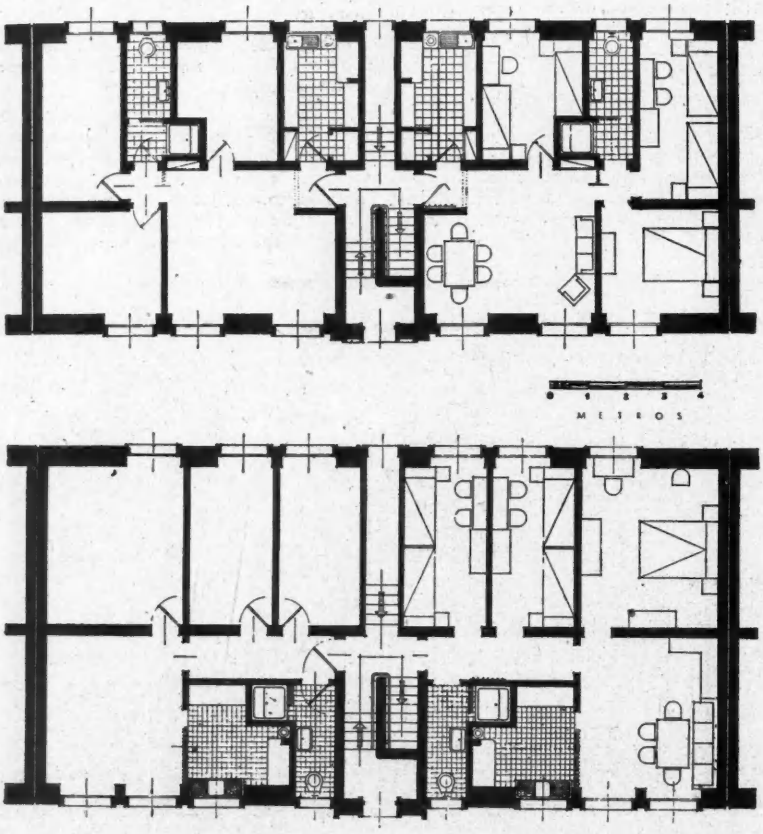
Staggering of the actual stages of various groups was planned to ensure an even flow of building material and to keep manpower employed at a constant level.

To ensure the regularity of supplies of essential material, the authorities awarded long-term contracts and so enabled the industries to ensure that the materials were available when they were needed, and consequently work has not been held up for lack of supplies.

The contract laid down that the federation were to be responsible for the following:—To meet the expense of any unforeseen works up to an amount of 5 per cent of the total; to reimburse to the municipality the price of the land at 10s., 15s. and £1 a sq. yd. respectively for houses of the first, second and third categories, and also to meet expenses relating to the administration and municipal control amounting to 1 per cent. of the total of the other charges. The contract also laid down that the rents of the different types of dwellings should be calculated on a basis of 5.5 per cent of their total cost.

In view of the immense amount of domestic work which is being undertaken here in Great Britain, it might be profitable to study the methods adopted in this experiment in much more detail. Naturally living conditions vary greatly in different countries and therefore cannot be taken to apply universally, but to investigate something actually achieved cannot but be advantageous.

This town of Alvalade does to my mind represent a very tangible contribution to town planning, site planning and to individual dwellings, and is impressive in its boldness, vision and adventure.



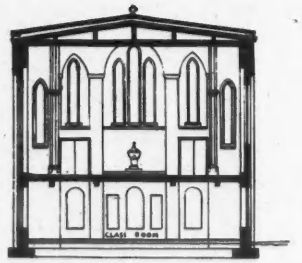
Plans of typical 3-bedroom accommodation which were analysed to find the most effective design. The type above received 15 points and that below only 8.

TOWN AND COUNTRY PLANNING CONFERENCE

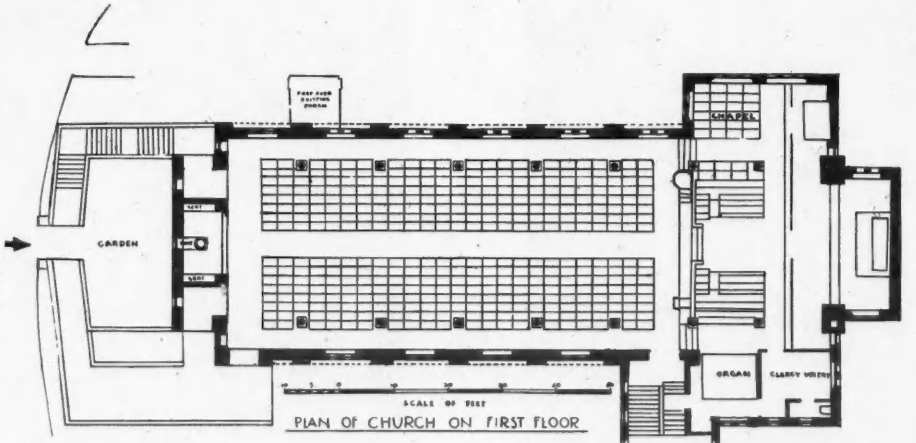
"PLANNING AND THE PEOPLE" is to be the theme of the forthcoming national conference of the Town and Country Planning Association, to be held at County Hall, London, on October 4 and 5 next. The conference will be officially opened on October 4 by Lord Silkin.

The principal speakers at the four sessions will be Professor W. G. Holford, M.A., B.Arch., F.R.I.B.A., F.I.L.A., M.T.P.I., Professor of Town Planning, University College, London, who will speak on "Land Uses and Planned Uses"; Professor Gordon Stephenson B.Arch., F.R.I.B.A., A.I.L.A., A.M.T.P.I., Professor of Civic Design, Liverpool University, "Hopes and Fears for the London Plans"; Mr. John Pearce, Secretary, Cornwall Council of Social Service, "The Planning Authority and the Public"; and Mr. J. A. Watson, P-P.R.I.C.S., Metropolitan Juvenile Court Magistrate, "The Child is Father to the Plan." The chair at the four sessions will be taken, respectively, by Messrs. F. J. Osborn, F.R.I.B.A., chairman, executive committee, Town and Country Planning Association; C. N. Thornton-Kemsley, M.P.; Gilbert McAllister, M.A., M.P.; and R. McKinnon Wood, O.B.E., M.A.

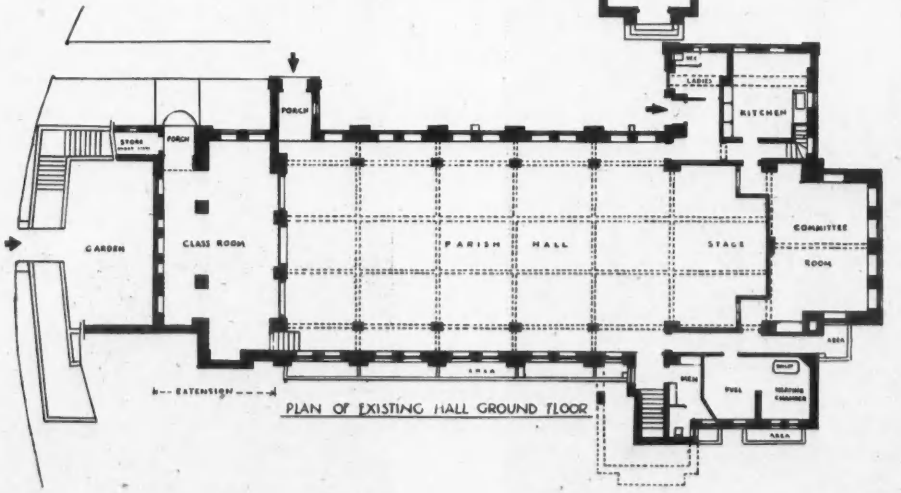
A dinner will be held in connection with the conference in the Royal Festival Hall on October 4.



CROSS SECTION LOOKING WEST



PLAN OF CHURCH ON FIRST FLOOR



PLAN OF EXISTING HALL GROUND FLOOR

THE CHURCH OF ST. LEONARD, NORWOOD, SHEFFIELD

LESLIE T. MOORE, FRIBA, ARCHITECT

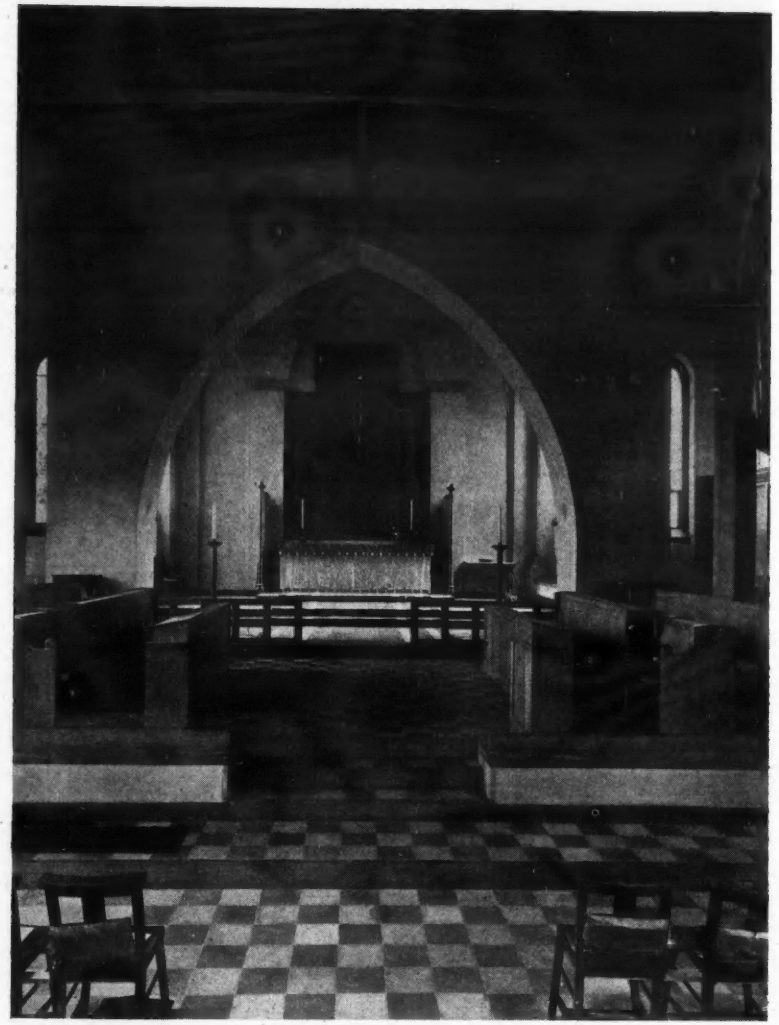
WHEN the development of housing estates started 20 years ago in Norwood, a suburb of Sheffield, a precipitous site was allotted for a future church, and a large hall was built for immediate use.

The flat roof of this building was designed to be the floor of the future permanent Church of St. Leonard, which was begun in 1939, and after standing roofless for 10 years has now been completed.

The walling is of local brick, and the flat pitched open roof is covered with copper. There is a small chapel in the north transept, and the organ and vestry in the south. A choir vestry is planned on a mezzanine floor below. Owing to the steep site an inclined approach is designed at the west end for funerals.

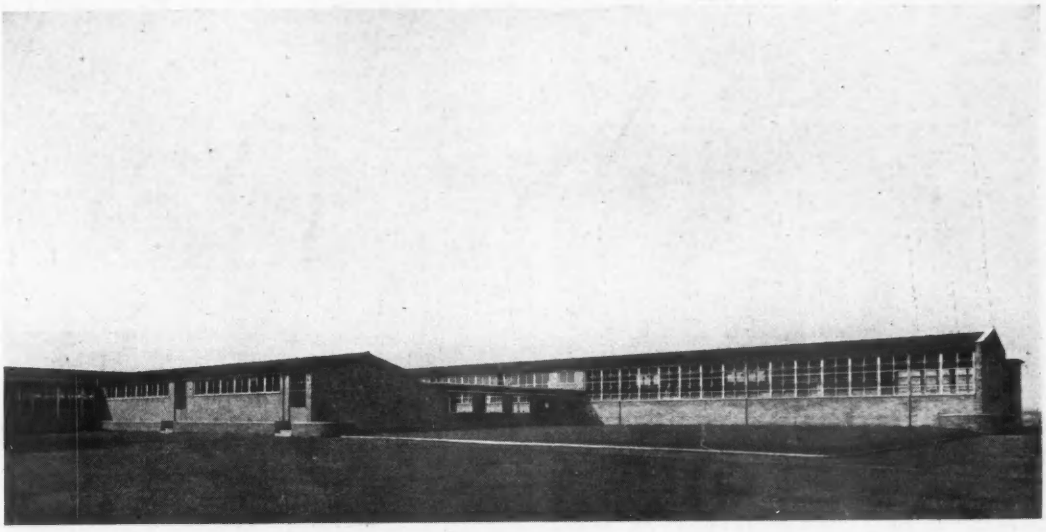
The main contractors were Messrs. W. G. Robson, Ltd., of Sheffield. Sub-contractors were as follows :—

Colin Elliott, copper work; C. Pearce and Sons, heating; R. W. Brook and Co., Ltd., wood block flooring; and C. E. Welstead, glazing.



The chancel.

View along the nave from the chancel.



Typical classroom wing and boys' sanitary block.

ICKNIELD COUNTY SECONDARY SCHOOL

F. OLIVER, AM Inst CE, LUTON BOROUGH ENGINEER

K. SEYMOUR, AM Inst CE, DEPUTY BOROUGH ENGINEER

W. VICTOR SMITH, ARIBA, CHIEF ARCHITECTURAL ASSISTANT

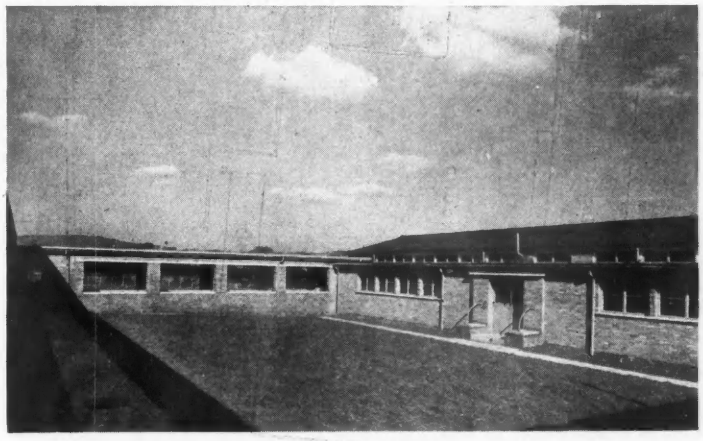
ICKNIELD School represents the third county secondary modern school to be completed under the Luton Corporation's post-war education building programme. It has been erected on a site of about 47 acres at Riddy-lane to the north of Luton not far from the old Icknield-way, from which the school derives its name. The building has been planned in separate departments to accommodate 200 boys and 200 girls in the first instance and, with future extensions, to provide for ultimate totals of 450 boys and 450 girls. The areas of the dining-halls, kitchen, staff rooms and sanitary blocks have, therefore, been designed to allow for the future maximum number of pupils.

Only one assembly hall has been built at present and this is generally fitted up for the production of amateur dramatics complete with green-rooms for the players. Future extensions will include a second assembly hall, two gymnasia and two libraries, apart from additional classrooms.

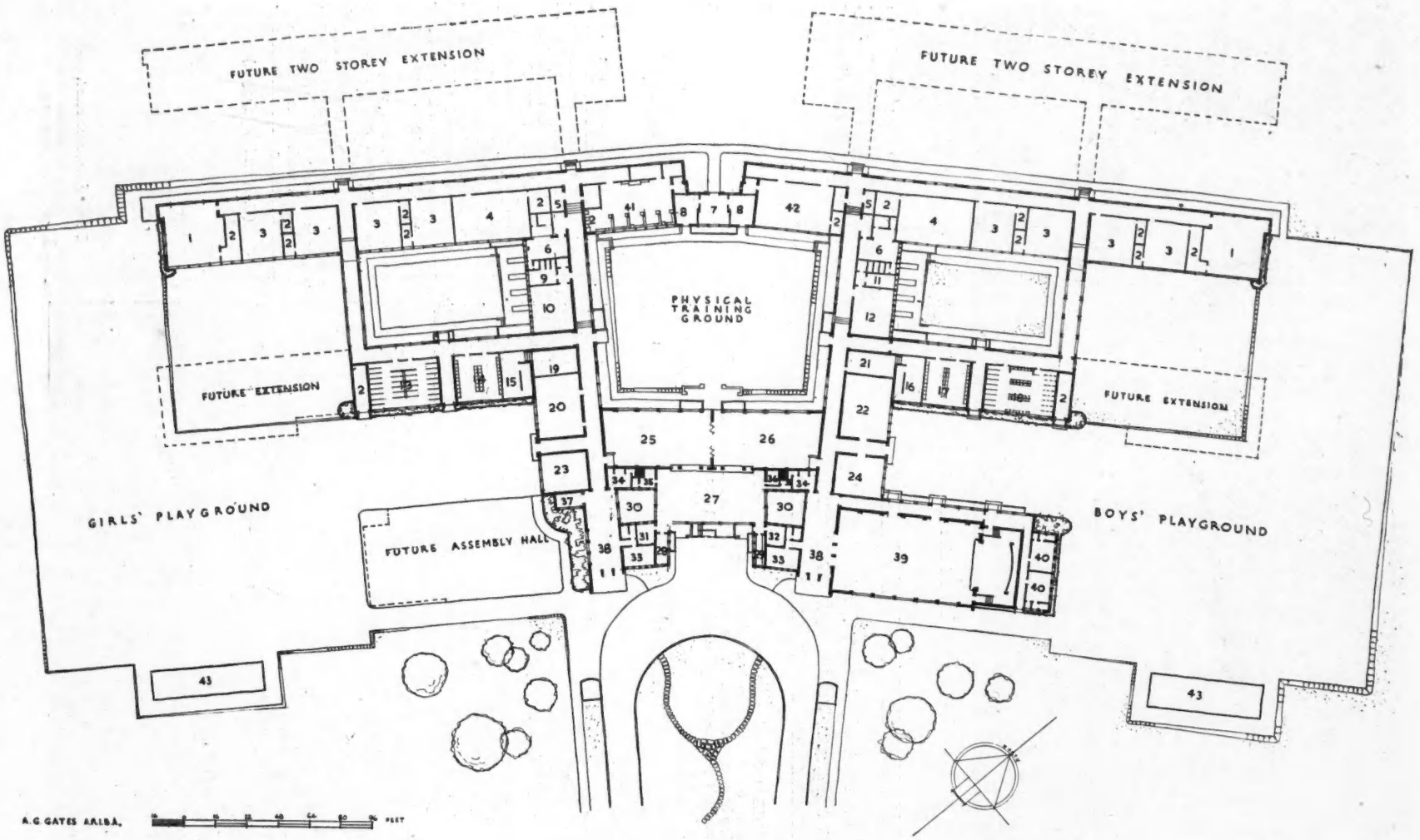
General Planning : Lightness and rapidity of construction, together with a reasonable degree of flexibility in the planning of classroom accommodation, were the first main requirements. Second, provision for general future expansion, which could proceed without interference with the existing school buildings, was also desirable. It was found that the " fan "-shaped plan of the building afforded the most economical foundation layout in consideration of existing contours and at the same time provided a general south-east aspect to all classrooms. For the first stage of the programme it was considered that the dining-halls should serve a dual purpose combining the facilities of a temporary girls' assembly hall with occasional use for gymnastic instruction. For open-air physical training an enclosed P.T. court of approximately 1,250 yards super was provided, conveniently adjacent to showers and changing-rooms.

Construction : A system of construction was used whereby the building could be roofed at a very early stage, thus enabling work to proceed under cover. As structural steelwork was at that time controlled, a light steel framework was designed using welded steel trusses supported on light steel stanchions fabricated from $\frac{3}{8}$ in. by $1\frac{1}{2}$ in. channels welded together with batten spacers at approximately 3 ft. intervals. The total weight of structural steelwork was thus limited to 85 tons. Pitched roofs were covered with dark brown Super-six corrugated asbestos sheeting laid to a 15 deg. pitch with all laps sealed in bitumen mastic. Flat roof surfaces over corridors were constructed with precast vibrated concrete slabs 8 ft. 3 in. long by 1 ft. 6 in. wide by 3 in. deep designed to withstand an inclusive loading of 90 lb. a ft. sup., and supported on load-bearing walls and on the steel framework of the building. With the use of a light crane it was found that a total of approximately 860 ft. super of concrete roofing could be laid in a normal day's work without the use of timber shuttering. All flat roof sur-

(*Continued on page 322*)



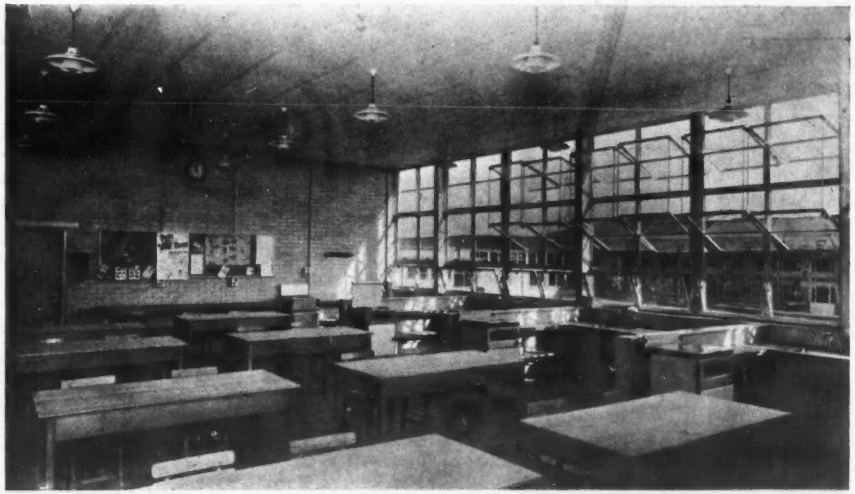
View of entrance court.



Plan of school. (*See key below.*)

KEY TO PLAN

1 ART ROOM.
2 STORES.
3 CLASSROOMS.
4 SCIENCE LABORATORY.
5 WAITING-ROOM.
6 MEDICAL WAITING-ROOM.
7 GROUND EQUIPMENT STORE.
8 GAMES STORE.
9 FEMALE STAFF LAVATORIES.
10 FEMALE STAFF ROOM.
11 MALE STAFF LAVATORIES.
12 MALE STAFF ROOM.
13 GIRLS' W.C.s.
14 GIRLS' LAVATORIES.
15 GIRLS' SHOWERS.
16 BOYS' SHOWERS.
17 BOYS' LAVATORIES.
18 BOYS' W.C.s.
19 GIRLS' CHANGING-ROOM.
20 GIRLS' CLOAKROOM.
21 BOYS' CHANGING-ROOM.
22 BOYS' CLOAKROOMS.
23 GIRLS' DRYING-ROOM.
24 BOYS' DRYING-ROOM.
25 GIRLS' DINING-ROOM.
26 BOYS' DINING-ROOM.
27 KITCHEN.
28 LARDER.
29 VEGETABLE STORE.
30 OPEN AREA.
31 DRY STORE.
32 KITCHEN STAFF.
33 HEAD TEACHER.
34 SECRETARY.
35 OFFICE.
36 CHINA STORE.
37 CHAIR STORE.
38 CRUSH HALL.
39 ASSEMBLY HALL.
40 GREEN ROOM.
41 DOMESTIC SCIENCE.
42 WOODWORK.
43 CYCLE SHED.



Top: Girls' domestic science room.

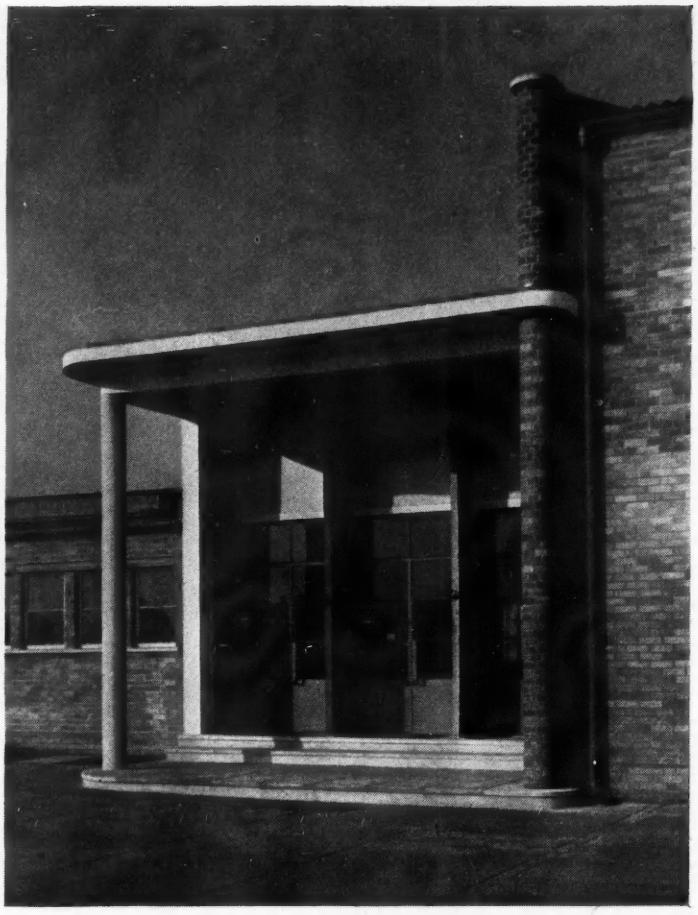
Left: Boys' crush hall.

Right: Typical classroom wing under construction, showing steelwork erected and roofing completed, ready for concreting and internal work to proceed under cover.

faces were finished with three-layer bituminous felt laid under a guarantee of 12 years. The time taken for the construction of concrete stanchion bases, erection of steelwork and trussing complete with the fixing of asbestos roofing, was estimated at between 24 to 30 manhours per 10 ft. classroom bay, exclusive of any incidental foundation work and the construction of the corridors. Brickwork cladding was executed in 11 in. cavity walls.

Classrooms have normal clerestory lighting and the slenderness of the fabricated stanchions enabled the south-east elevations to be provided with continuous glazing. Metal window units were, however, interspaced with hardwood mullions secured to stanchion faces, thus affording a measure of tolerance against any slight inaccuracies in the setting-out of the structural steelwork. The minimum value of daylight factors achieved was 2.18 per cent. Classroom floors have been finished with ¾ in. red mastic asphalt laid on a sarking felt underlay. The domestic science room was, however, provided with 9 in. by 9 in. buff Ruabon quarry tiles laid with ½ in. joints and filled with coloured cement gauged with carborundum. Wood block flooring in West African mahogany has been provided to both assembly hall and dining-rooms. Corridor floors are finished in 1¼ in. buff coloured granolithic and crush hall floors are provided with 12 in. by 12 in. terrazzo tiles. Suspended ceilings are in ½ in. insulation board overlaid with aluminium foil throughout.

The whole of the building is centrally heated by a low pressure system using cast-iron radiators operated by oil burning equipment. Pipe ducts are under corridor floors, extending to half the width of the corridor and approximately 3 ft. 3 in. deep. All teaching rooms have loud speakers for the reception of school broadcast programmes and gramophone records used in the teaching of musical appreciation. The cost of the building was approximately £130,000 ; the resultant cost per place is of course attributable to the fact that much of the accommodation provided in the initial building programme caters for a future school population of 900 pupils.

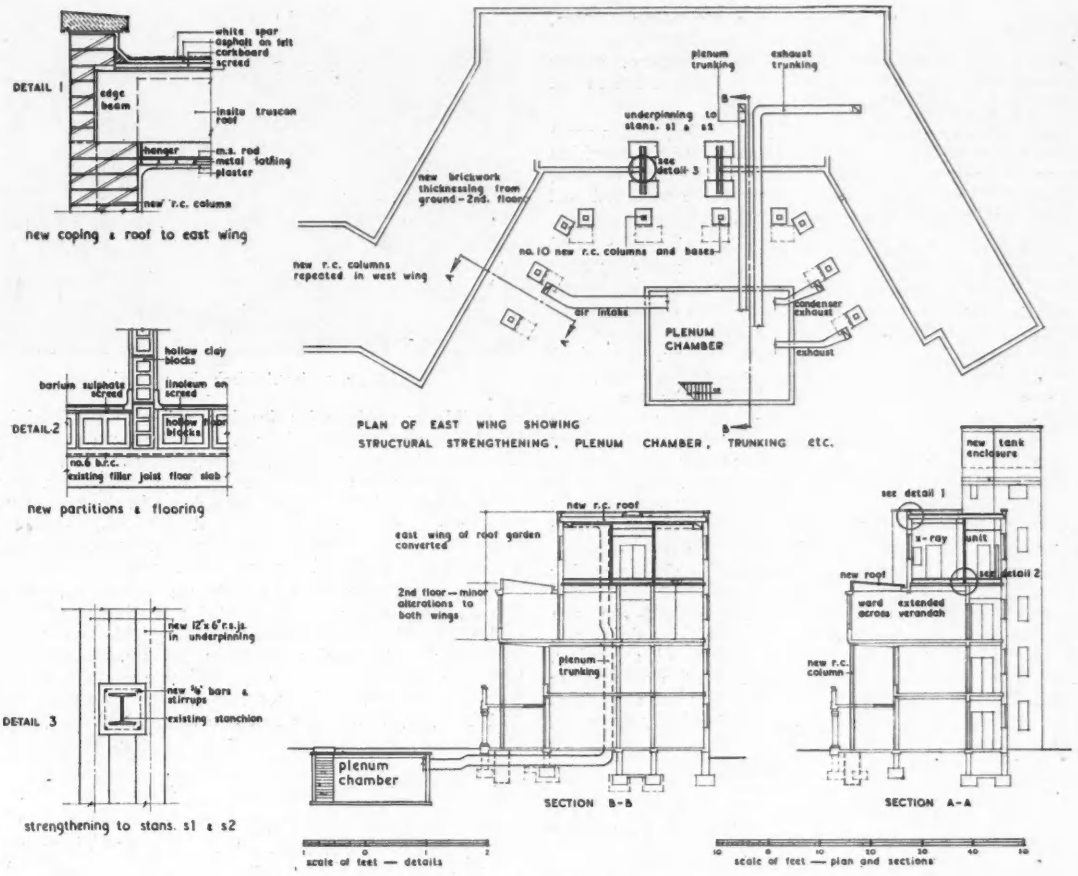


Boys' entrance. Below: Assembly hall block.

The building and all other works were designed in the Borough Engineer's department, Luton Corporation, under the direction of the Borough Engineer, F. Oliver, A.M.Inst.C.E., A.M.I.Struct.E., M.Inst.Mun.E., and Deputy Borough Engineer, K. Seymour, A.M.Inst.C.E., A.M.I.Struct.E. The following architectural assistants were engaged upon the work : *Present Staff :* W. Victor Smith, A.R.I.B.A. (Chief Architectural Assistant) and D. W. Stoneham, A.R.I.B.A. *Former Staff :* F. Napp, A.R.I.B.A., M. J. Simpson, A.R.I.B.A., and S. Steele, Student R.I.B.A.

The general contractors were Messrs. H. C. Janes, Ltd., of Luton, Beds., and the clerk of works was Mr. H. J. Ratcliff. Quantity surveyors were Messrs. Oswald E. Parratt and Partners, and the following were sub-contractors and suppliers :

External facing bricks, Ibstock Brick Co., Ltd.; internal facing bricks, Uxbridge Flint Brick Co., Ltd. ; structural steelwork, Smith Walker, Ltd. ; steel reinforcement, Square Grip Reinforcement Co., Ltd. ; asbestos roofing, Roberts Adlard and Co., Ltd. ; concrete roofing slabs, Tarmac, Ltd. ; precast concrete work, Low Giddings, Ltd. ; steel windows and doors, John Gibbs, Ltd. ; wood block flooring, Hollis Bros., Ltd. ; bituminous flooring, Durable Asphalte Co., Ltd. ; quarry tile paving, Carter and Kernahan, Ltd. ; terrazzo pavings and partitions, Zanelli, Ltd. ; grano. paving and plastering, W. A. Telling, Ltd. ; suspended ceilings, Sundeala Board Co., Ltd. ; sanitary fittings, Associated Clay Industries, Ltd. ; ironmongery, cloakroom fittings, N. F. Ramsay and Co., Ltd. ; internal doors, H. C. Janes, Ltd. ; heating and hot water supply, Heat and Power Engineering Co., Ltd. ; bituminous roofing felt, Macartney, Ltd. ; tarmacadam surfacing, Wirksworth Quarries, Ltd. ; electrical installation, David Thomson and Sons, Ltd. ; shutters, G. Brady and Co., Ltd. ; entrance gates, S. G. Day ; internal and external decorations, Howley Decorations, Ltd. and glazing, Aygee, Ltd.



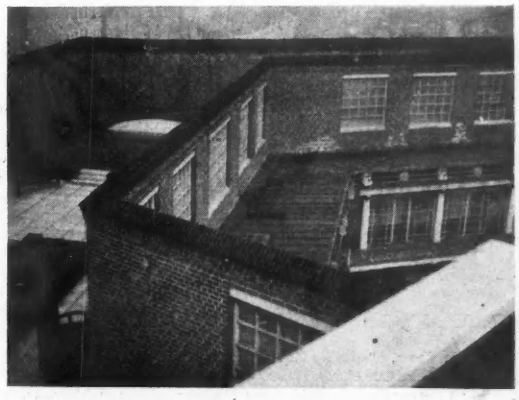
SCHEME FOR A 26-BED NEURO-SURGICAL HOSPITAL UNIT

DESIGNED BY GERALD F. JONES AND SYKES

IN the autumn of 1948 Messrs. Gerald F. Jones and Sykes received instructions to prepare a scheme for a neuro-surgical unit to be installed on the second and third floors of the existing private patients' block of a large hospital in Southern England. The building, which is partially steel-framed, was designed and erected by the local authority in 1935. It consists of three floors and a roof garden, and is W-shaped on plan, with a central tower containing lift, staircase and water tanks. Technical details of the scheme were finally approved by all the authorities and specialists concerned, and working drawings and bills of quantities were prepared. However, in the summer of 1950 the clients decided not to proceed further with the scheme.

The scheme was to involve the following :—

Third Floor : the existing roof garden to be converted into operating, radiological and laboratory units. This would necessitate constructing a new roof ; taking up roof garden and laying hollow blocks and floor surfacing ; erecting partitions ; reinstating ferro-concrete garden windows with metal casements ; and providing services, fittings and decorating. Services to include light and power, heating (l.p.h.w. rads.), hot and cold water, plenum ventilation, gas, steam for sterilisers, telephone,



Roof garden, E. wing, private patients' block.

Roof garden, looking towards central staircase.

suction, emergency lighting, nurse signalling system, fire alarm system, etc. Electronic screening was required to the operating theatre, surgeons' wash-up, minor theatre and E.E.G. cubicle, and X-ray protection to the skull and tilting table rooms.

Second Floor.—Here some of the existing rooms were to be extended across the veranda and new roof provided over them in place of the existing patent glazing ; existing partitions, fittings and services were to be modified and redecorating carried out throughout.

Generally.—Modifying and strengthening the steel framework of the building was required ; a new tank room built above existing to house two new water storage tanks ; and a plenum chamber provided below ground level at south east of building.

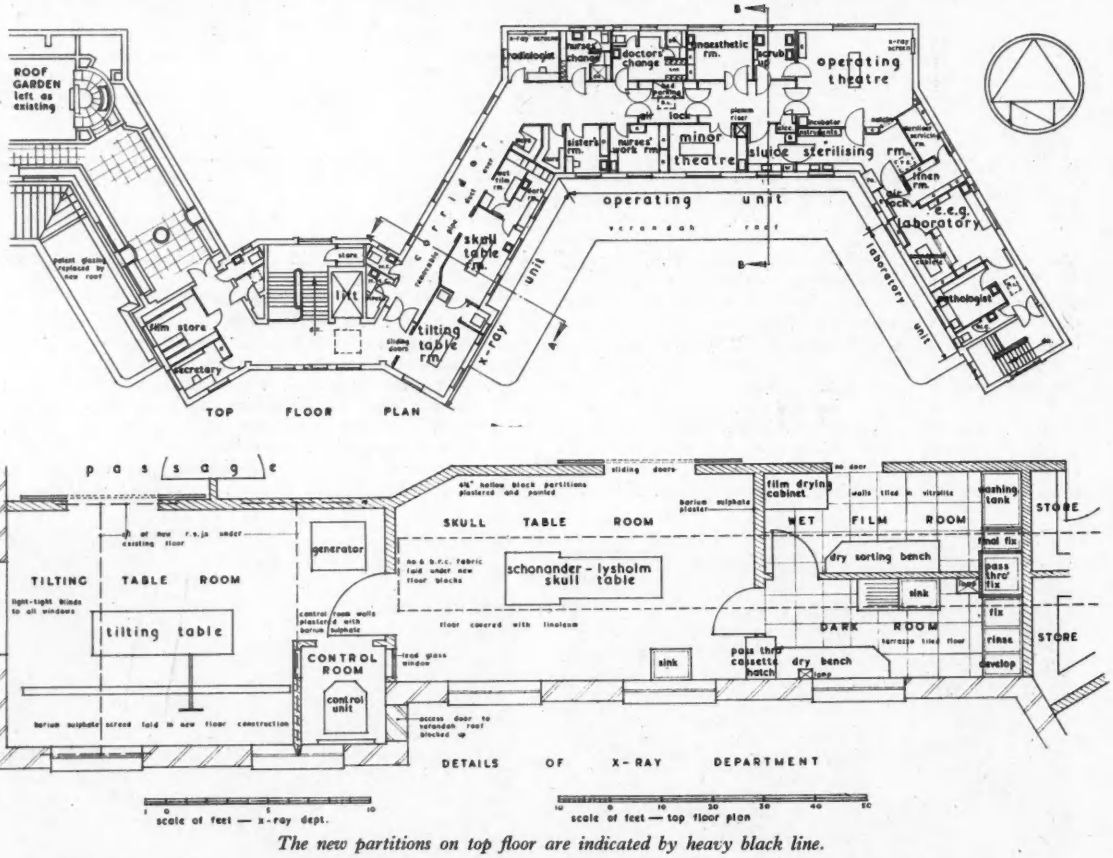
Removal of the roof garden (third floor, east wing) would have caused the new floor surface, if laid direct on the structural slab, to be about 9 in. below the central and east staircase landings, and it was necessary to raise the floor surface to the landing level by means of hollow blocks. Hollow block was to be used for partitions on account of the need for reducing dead load. The soundproof cubicle in the E.E.G. laboratory was to consist of 4½ in. hollow blocks with a lining of plastered fibreboard fixed by sound-insulating clips (felt-lined).

Electronic screening was required to the operating theatre, surgeons' wash-up, minor theatre and soundproof cubicle. It consisted of ¼ in. mesh galvanised-iron wire behind the wall plaster and under the floor finishings. The Hy-rib ceiling required no additional screening. Doors and windows were screened. In the case of the operating theatre windows, the neuro-surgeon required double windows, openable, electronically-screened,

Private patients' block from S.W.

accessible everywhere for cleaning, and with a light-tight blind between the two leaves. Eventually a type was devised which might well have been highly successful. To afford precautions against anaesthetic explosions, the brass strips dividing the terrazzo floors in the operating theatre suite were bonded and earthed. As only diagnostic and not deep therapy apparatus was to be used, the requirements for X-ray protection were not extensive.

The consultants were as follows : Structural work, Mr. A. Gordon Young, M.Inst.C.E. ; heating, ventilating and electrical work, Messrs. E. Wingfield-Bowles and Partners ; and quantity surveyors, Messrs. Widnell and Trollope, who prepared an approximate estimate in the sum of £39,500, half for services, whereas an entirely new building would have cost at least £70,000.



The new partitions on top floor are indicated by heavy black line.

ROOMS FULLY AIR CONDITIONED : Operating Theatre, Minor Theatre, Anaesthetic Room, Sterilising Room, Sluice, Scrub-up, Part Corridor.
ROOMS ELECTRONICALLY SCREENED : Operating Theatre, Scrub-up, Minor Theatre, E.E. Cubicle.
KEY TO SYMBOLS : S.H. : Shower. L.K. : Locker. R.L. : Roof Light. C. : Cupboard. S. : Shelf. B. : Brooms. F.R. : Refrigerator. W. : Washing Machine. T.S. : Trolley space.

NO

NEW

IT
ham
found
Trinit
Majes
Duke
Trinit
Lord

The
erecte
whom
stone
who
After
1940,
remai

The
Messr
given
so far
crete
is sch
1953.

Th
Hous
bomb

As
also
style,
the b
60 ft
King
this
what
build
after
demo
wing
level
of b

Dr
R. F
Acad
in *T*

COV

Sr
ing
Basil
Cath
tect.
Cove
final
acce
ruin
will

M
who
for
desi
as a
of
in
cath
hom
mor
take

L.M
C

A
M.
No.
thei

NOTES & NEWS

NEW TRINITY HOUSE BUILDING

IT HAS BEEN ANNOUNCED from Buckingham Palace that the King will lay the foundation-stone of the new building of Trinity House on October 24. His Majesty is expected to be received by the Duke of Gloucester, the Master of Trinity House, and it is hoped that the Lord Mayor of London will attend.

The old building of Trinity House was erected by Samuel Wyatt in 1803, after whom it took its name. The foundation-stone was laid by William Pitt the Younger, who was then Master of Trinity House. After the great fire raid of December 29, 1940, only the shell of the building remained.

The architects of the new building are Messrs. Richardson and Houfe. They were given the commission during the war, and so far have cleared the site and laid concrete foundations. The new building is scheduled to be completed by April, 1953.

The site is 180 ft. by 160 ft. Wyatt House is to remain as it was before the bombing.

As an extension to Wyatt House, and also built of Portland stone in similar style, is to be added what will be known as the banqueting hall wing. This will be 60 ft. long, and it will be here that the King will lay the foundation-stone. Where this new building will rise there stood what used to be called the old ballast building. It was erected about two years after Wyatt House was built, and was demolished fairly recently. The new wing will be stone-faced up to first-floor level. The remaining two floors will be of brick, with stone window surrounds.

Drawings of the new building by Mr. R. F. Britain were exhibited at the Royal Academy in 1950, and were reproduced in *The Builder* of May 19 of that year.

COVENTRY CATHEDRAL

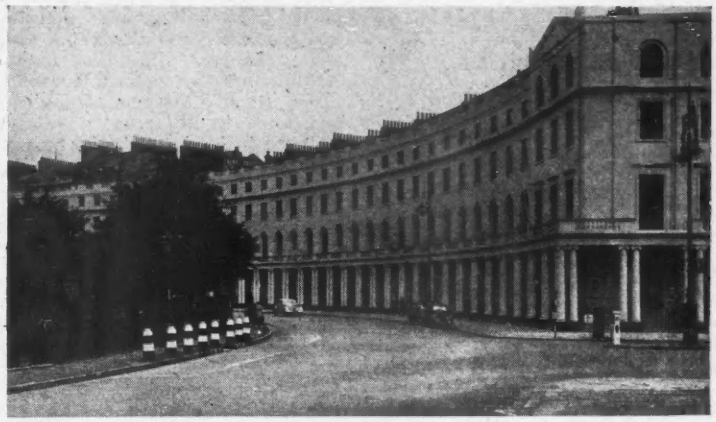
SPECIAL DRAWINGS, which aim at showing to the public the real beauty of Mr. Basil Spence's design for the new Coventry Cathedral, are being prepared by the architect. They will be placed on view in Coventry when completed. After the final decision has been taken and the plans accepted models will be on view in the ruins of the old cathedral and illuminations will give the full effect of the new cathedral.

Mr. Spence was one of the architects who received Festival of Britain awards for housing earlier this year. His cathedral design was intended, he states, " literally as an antidote " to his work on the Festival of Britain Exhibition of Industrial Power in Glasgow. All the planning for the cathedral took place at his Edinburgh home between 10 at night and 3 in the morning. He estimates the cathedral will take from five to ten years to build.

L.M.B.A. VISIT TO HOUSE OF COMMONS

AT THE INVITATION of three of the M.P.s for constituencies in the L.M.B.A.'s No. 3 Area, members from the area and their ladies are to visit the Houses of Parliament on September 11, when they will also see the Parliament Past and Present Exhibition in the Grand Committee Room, which the two Houses have organised as their contribution to the Festival of Britain.

After the tour, the three Members of Parliament concerned, Mr. H. W. Butler, M.P. for Hackney South, Mr. Nigel Davies, M.P. for Epping, and Mr. Percy Holman, M.P. for Bethnal Green, are to be entertained to lunch by members of the area in the Horse Shoe Hotel. Mr. B. L. Morgan, J.P., chairman of the area, will preside.



A view of part of the Nash terraces in Park-crescent which have recently been renovated. Altogether some five hundred houses in the vicinity of Regent's Park, London, designed by John Nash, are being restored and preserved as historic buildings. The work is largely being carried out by the Commissioners of Crown Lands, with the assistance of the Ministry of Works.

LANDSCAPE DESIGN AWARD

MR. LEWIS J. CLARKE, a student of landscape architecture in the Department of Town and Country Planning, King's College, University of Durham, has been awarded a Smith-Mundt Fellowship and a Fulbright Grant to Harvard University in the U.S.A. Mr. Clarke has recently passed the examination for the Diploma in Landscape Design of the University of Durham. He was formerly a student at the Leicester School of Architecture.

The course in landscape design at King's College, Newcastle-upon-Tyne, is the first of its kind in Britain and Mr. Clarke is one of the first students to be awarded the diploma.

COMING EVENTS

MONDAY, SEPTEMBER 10

INSTITUTE OF REGISTERED ARCHITECTS.—Opening of exhibition on " The Architect and the Community." Mile End Library. Continuing until September 22.

TUESDAY, SEPTEMBER 11

DEPARTMENT OF SCIENTIFIC AND INDUSTRIAL RESEARCH. —Opening of Building Research Congress. Institution of Civil Engineers, Great George-street, S.W.1. Continuing until September 20.

L.M.B.A. AREA NO. 3.—Visit to Houses of Parliament, 11 a.m., followed by lunch, Horse Shoe Hotel, Tottenham Court-road, at which Messrs. H. W. Butler, M.P., Percy Holman, M.P. and Nigel Davies, M.P., will be present.

WEDNESDAY, SEPTEMBER 12

L.M.B.A. (CENTRAL AREA NO. 1).—Luncheon and general meeting. Derry and Tom's Restaurant, Kensington High-street, W.8. 1 p.m.

L.M.B.A. AND BUILDING RESEARCH CONGRESS. —Cocktail Party, Savoy Hotel. 6.15 p.m.

THURSDAY, SEPTEMBER 13

INSTITUTE OF CONTEMPORARY ARTS.—Opening by Professor W. G. Holford of an exhibition of work by students of the Architectural School of the Polish University College under Professor Smigielski. 17–18, Dover-street, W.1. Continuing until October 6. Weekdays, 10 a.m. to 6 p.m.

SATURDAY, SEPTEMBER 15

SCIENTIFIC FILM ASSOCIATION.—Opening of the fifth Congress of the International Scientific Film Association. The Hague, Netherlands.

THAMES EFFLUENTS

THE MINISTER of Local Government and Planning (Mr. Hugh Dalton) has appointed a Departmental Committee with terms of reference : " To consider the effects of heated and other effluents and discharges on the condition of the tidal reaches of the River Thames, both as at present and as regards any proposed new developments in the area and to report." The chairman is Professor A. J. S. Pippard, M.B.E., D.Sc., M.I.C.E., and the secretary, Mr. A. R. Isserlis, Ministry of Local Government and Planning, Whitehall, S.W.1.

PROFESSIONAL ANNOUNCEMENTS

The firm hitherto styled MAUGER AND MAY, FF.R.I.B.A., announce that MR. ARTHUR MAY has retired from partnership, but remains the firm's consultant. The partners in the firm are now MESSRS. PAUL MAUGER, F.R.I.B.A., M.T.P.I. ; ALICK GAVIN, B.A., A.R.I.B.A. ; GEORGE MATHERS, A.R.I.B.A. ; and JOHN MITCHELL, A.R.I.B.A. They are continuing to practise from Parkway-chambers, Welwyn Garden City and 25, Marylebone-road, N.W.1, under the title PAUL MAUGER AND PARTNERS.

MESSRS. JULIAN LEATHART AND TINGAY, announce that they have taken into partnership MR. JOHN ANTHONY LEATHART, M.A., A.R.I.B.A., as from September 5, 1951. The name of the firm will be changed to LEATHART, SON AND TINGAY.

MR. W. L. HARRIS, A.I.A.A.S., has recently resigned from the Wokingham R.D.C. and been appointed buildings and works surveyor to Hoover, Ltd., Perivale, where he will be pleased to receive trade catalogues and leaflets.

FROM " THE BUILDER " OF 1851

Saturday, September 6, 1851

FINE FOR LEAVING WORK.—At the Handsworth sessions, on Saturday week, a puddler was charged with leaving his work, getting drunk and assaulting a watchman, who had "knocked off" the two under hands, after two hours' delay, in order to prevent further waste of iron and fuel. The magistrates consulted as to sending the case to the sessions, but ultimately, as defendant regretted his folly, fined him 40s. and costs, or in default, committed him for twenty-one days, with hard labour, to Stafford.

CORRESPONDENCE

LONDON BUILDERS' CONFERENCE

To the Editor of *The Builder*

SIR,—The correspondence in your columns concerning the London Builders' Conference has caused you, in the leading article of your issue of August 24, to make references to an agreement stated to have been made by this federation with the Royal Institute of British Architects and to the National Working Rule Agreement. In pointing out some inaccuracies in those references (admittedly on side-issues) it is perhaps necessary that I should first make it clear that the National Federation of Building Trades' Employers is (and always has been) entirely unconnected with the Conference—either with its inception or with any of its subsequent operations—and that therefore it would be inappropriate to submit comments on the main issue.

One misconception which needs to be cleared up concerns the Code of Practice relating to the letting of sub-contract works which you describe as having been agreed 20 years ago between the Royal Institute of British Architects and the National Federation. You proceed then to infer that, by recognition of such a code, this federation accepted the position that "Architects must continue to protect their clients' interests by nominating specialist sub-contractors to carry out (*not* on a price competitive basis) all the more highly skilled operations." On both these points I fear that your usually reliable memory has played you false. It is true that in 1933 the National Federation and the R.I.B.A. did endeavour to agree a Code of Practice, and that further negotiations on the subject took place in 1937. Unfortunately, it was not found possible to reach complete agreement, and I would suggest that a draft code which was never adopted cannot be quoted as a statement of fact.

But, even if the code, as drawn up by a joint committee of architects and builders, had been adopted by the R.I.B.A., it must be emphasised that it would have had the effect of limiting, rather than recognising, the practice of nomination of sub-contractors and would thus have tended to reduce the amount of work in a building contract which was let without competition. In the draft code building operations were divided into three classes:

(i) Works for which the principal contractor should customarily be asked to tender;

(ii) works for which the principal contractor should obtain tenders from several specialists nominated by the architect, or from any specified sub-contractor "or other approved";

(iii) works of an artistic character, or such as require special technical skill in design and erection, as to which the present practice of inserting provisional sums might continue.

It will be noted that works in the second class were to be subject to competition. The works in the third class comprised only eight items, and, apart from elevators and specialised tiling, were works of an artistic character. These could not in any circumstances have constituted more than a very small proportion of any contract, and could in no sense be regarded as "all the more highly-skilled operations."

It will be seen therefore that the policy of the National Federation in this matter was directed to increasing the scope for competition among sub-contractors while avoiding the old evils of the hawking of sub-contracts to which you refer. It may also be relevant to mention that both the Simon Committee on the Placing and Management of Building Contracts and the recent Working Party endorsed the federation's views. The Working Party, for instance, said "It is important that the main contractor's control over the contract as a whole should not be impaired by the unnecessary multiplication of nominated sub-contractors." They went on to emphasise (i) that the work of the general building trades should normally be included in the main contract and sub-let, if at all, by the main contractor himself and (ii) that "when specialists are selected by the architect or engineer they should, wherever possible, be selected as the result of competitive tenders . . . and the practice of the specialist submitting his own design and being appointed without competition should be limited." The problem therefore can scarcely be regarded as having been solved by a proposed Code of Practice of 20 years ago which was never actually adopted.

The other misconception to which I must draw attention is in a statement in the third paragraph of your leading article which may cause some misunderstanding in regard to both the nature of the wage rates fixed by the National Joint Council and the position, in relation to the National Joint Council Agreement, of incentives schemes. You say: "The operative had a long and hard fight to establish a living wage; when he secured this through the National Joint Council *as a minimum* he immediately found ways and means of improving this wage; he demanded and received bonuses on output and now wants the National Joint Council to recognise payment by results as fundamental to the wage structure." The plain fact is that the rates of wages prescribed by the National Joint Council are invariably described in the National Agreement itself, and in the National Working Rules, as "the current *standard* rates of wages." The fact that they are standard—neither maximum nor minimum—was at the very root of the war-time form of Defence Regulation 56AB, which otherwise would not have been practicable since it required payment to be neither more nor less than those rates. It is true, no doubt, that higher (and lower) rates have on occasion been paid by employers; that does not mean, however, that there is any justification for regarding the payment of any other rates as being in accordance with the National Agreement.

The latter part of the sentence I have quoted above is also somewhat obscure. The right to operate systems of payment by results was granted to employers by the National Joint Council in 1947 following consultations between the employers' and operatives' executives. The supplementary settlement made last year did not alter this position in principle, but merely provided machinery which will, it is hoped, make the operation of incentives schemes more general and assist in overcoming any incidental difficulties which may arise on jobs. No request has been put forward by either side that the National Joint Council should take further steps towards what you describe, rather vaguely, as recognition of payment by results "as fundamental to the wage structure."

C. GORDON ROWLANDS,
Secretary, National Federation
of Building Trades' Employers.

82, New Cavendish-street, W.1.

To the Editor of *The Builder*

SIR,—As managing director of a fair-sized building company which has for many years worked *solely* on a fee basis of remuneration, may I add my views to those already expressed in correspondence resulting from your leading article of July 27 on the London Builders' Conference.

It is evident, both from your articles on this subject and from the letters you have received, that there are many divergent views not only on the procedure for placing a building contract, but also on the role to be played by the builder in partnership with the architect in organising and carrying out the work. One should not necessarily conclude from this divergence of views, however, that one approach is right and another wrong.

Building procedure, in this country anyhow, must be studied against a traditional background of freedom of thought and action and an ethical background of heterogeneous interests and aims. There has always been and there will always be the builder who will attempt to secure a contract knowing his price to be uneconomic; there has always been and there will always be the building owner who considers the builder fair game for a commercial gamble. On the other side of the account, however, there are those builders who put in a fair price for the job and those building owners who are willing to pay that price.

Surely the industry is not so stereotyped that it cannot cater for all tastes. By all means let the cut-throat competitive builder work for the man who thinks he can get a building for less than its real value—but do not let their battle of attrition influence the building industry as a whole. Regimentation is alien to our industry, but unless some form of self-imposed discipline is accepted, the habits of the few may well react to the serious detriment of the whole. Is this not the problem and is it not the solution of this problem that the R.I.B.A., the London Builders' Conference, and your journal are all seeking to find?

To add to the difficulties, in the same way as there are different classes of builder and building owner, so there are different

classes of building project; the type of contract for one may not be the type of contract for another. There is nothing new in all this, and both the Simon Committee and the Working Party acknowledged it but, apart from certain recommendations, what has been done about it?

As for the role to be played by the builder in the planning and execution of the contract, enough voices have been heard on this subject. I will not add to them other than to say that I have seen in action for a number of years the partnership of owner, architect, engineer, quantity surveyor, specialist sub-contractor and builder. It works, and it works satisfactorily.

P. E. TRENCH.

1, Stanhope-gate, W.1.

To the Editor of *The Builder*

SIR,—I have read with interest the various articles and correspondence about the London Builders' Conference. In your leading article of July 27, and the subsequent correspondence, the assumption appears to have been made that *all* contractors are members of the Conference. In practice this is not so, and the general function of the Conference becomes somewhat altered as a result.

Obviously, the Conference cannot assess a "fair price" as easily if, say, only half the contractors tendering for a contract are members. Furthermore, what is likely to be the attitude of members who are instructed to add, say, £500 to their tenders in this same circumstance? Will they not protest at being thus penalised for their membership?

Architects do not normally supply contractors with the names of all or any other firms tendering for a contract; neither do they give contractors a list of the tender figures until one tender has been provisionally accepted. The Conference circumvents both these established rules, and thus in any instance where all tenderers are Conference members the ideal conditions are created for tenders to be "arranged" either with or without the sanction of the Conference. The mere possibility that this *could* be done is surely sufficient to condemn such an arrangement. In any event, how does the circulation of the above information to Conference members (under code references) make for the maintenance of fair competition?

The dangers of providing contractors with this information are not lessened because the Conference supplies the information. What is to prevent an unscrupulous contractor, on his being informed by the Conference that his tender is the lowest by £3,000, making an "error" in his bills of quantities which, when corrected, will increase his tender by £2,000? How many architects would refuse to allow the adjustment to be made in such circumstances?

H. C. SIEDERER.

39, King Edwards-gardens,
Acton, W.3.

SHODDY WORKMANSHIP

To the Editor of *The Builder*

SIR,—Admirable as is its literary touch, I am sure that *The Builder* would not claim to be a competitor of *Punch*. What a happy surprise it is, therefore, to have at least two dull days brightened by such contributions as those of Mr. A. W. Hudson.

I should have been well content to wait hopefully and silently for the next instalment had it not been for the intervention of "Provincial Contractor," who blamed the Ministry of Works for granting Registration Licences to all and sundry, an injustice later endorsed by Mr. Hudson himself.

Servants, civil, are not encouraged to defend themselves in letters to the Press; but servants, civil, temporary, ex-, are liable to assume more freedom of the pen and, even though they share with their equally civil but seldom servile fellows the bonds of control at the hands of their former colleagues, may feel impelled to exercise their freedom in the interests of truth and equity.

When, during the war, it was deemed necessary to introduce the registration of builders and to restrict the number of builders registered, the then Parliamentary Secretary of the Ministry of Works promised that, after the war, as soon as the industry swelled to a specified proportion of its pre-war strength, the restrictions on registration would be lifted. Accordingly, when that figure was reached, the Ministry consulted the representatives of both employers and operatives and asked them if it was their wish that the promise should be fulfilled. It was at their request that it was then decreed that no applicant for registration should be refused unless he was known to have contravened the Defence Regulations or similarly blotted his copy-book.

The fault, dear builders, lies not in the Ministry, but in yourselves.

That, however, is the only criticism I can offer of Mr. Hudson's letters except that they were not written, and acted upon, years ago. His reference to the effects of two world wars reminds me of a conversation I had a year or so ago with a foreman bricklayer when, with my tongue almost bursting through my cheek, I assumed that his bricklayers laid, say, 700 bricks a day.

"'Ere, guv'nor," he exclaimed, aghast, "Don't you know there's bin a war on?"

I feel sorry for Mr. Parker because he takes as an affront to a great industry what is clearly an indictment of the policy under which we exist, which is killing incentive (a very different thing from incentives), sapping the spirit, dignity and pride of achievement which made the country great, making petty lawbreakers of us all and has dragged us from the summit of our national prestige to become anybody's doormat.

A story such as Mr. Hudson tells could probably be told of almost any other industry. But building, more than any other, is kept on an ever-shortening chain: and if you want to know the moral effect of being tied up ask any shaggy dog.

C. H. KITCHIN,
(Formerly London Regional Director, Ministry of Works.)

46, Dover-street, W.1.

To the Editor of *The Builder*

SIR,—The letter from "Provincial Contractor" is pathetic in its naïveté, and as he wants to know the views of others on the "great mystery of the disappearing craftsmen" here is the view of one of them.

Let us take "P.C's" points one by one, and let us call the good craftsman the "G.C."

1. Why *should* the licensing authorities require an applicant to have business experience? Some bosses may have plenty, but there are many who have no technical or natural capabilities. The "G.C." wants to be his own boss, that is what he thinks free enterprise means. But does it?

2. The Ministry of Works and the local authorities evidently think the "G.C." would make a better official than the inferior hand. They thereby show better judgment than the bosses who would condemn the "G.C." to be for ever at his tools just because he is a "G.C.", and promote the dud—which they (the bosses) mostly do.

3. Why shouldn't the "G.C." go for better money?—the boss does.

4. If the boss so much appreciates good quality it is easy to encourage it by the proper incentive. The panjandrums bursting with business experience have never been able to devise a way of properly paying for better work. Presently we'll hear that they cannot get it for *love or money*. Let them try the latter. It is the incentive we understand, and it is the only incentive that keeps the boss in business.

5. The apprentice sees the futility of efficiency in his work; he realises the deadendness of being a "G.C.", and soon quits to become perhaps a barrow-boy or a boss in another trade. He realises, too, that ambition is a two-edged weapon, to be wielded with extreme discretion.

6. There is as much scope for good workmanship in utility articles as in the frills of the pre-war age. Most good craftsmanship of the past was done by cheap labour at starvation level, and the finished work looked at and lived in only by those with money to buy it and leisure to enjoy it.

"G.C."

Middlesex.

COMPARATIVE PRICES OF PUBLIC BUILDINGS

To the Editor of *The Builder*

SIR,—I am endeavouring to compile a list of cube or superficial area prices in connection with the erection of the larger type of municipal and public buildings over a period of years, but more especially public buildings erected since 1950.

If I could take advantage of your corres-

pondence columns, perhaps readers of *The Builder* would be good enough to submit known prices related to actual buildings.

Related prices are required for such buildings as crematoria or mortuaries, public libraries, town halls, municipal offices, museums, college buildings and halls of residence; public baths, schools, modern sewage disposal works, fire stations, art and technical schools, hospitals, abattoirs, civic restaurants, municipal omnibus depots, universities, clinics, etc.

After compilation I would be pleased to send a completed copy of the schedule to any of the contributors to whom it might be of use.

W. G. GITTINS, T.D., A.I.A.S.

23, Baldwins-lane,
Hall Green, Birmingham.

COMPULSORY TRADE UNION MEMBERSHIP

To the Editor of *The Builder*

SIR,—I would refer you to my letter published in *The Builder* of June 15 last, in respect of the condition relating to the appointment of borough engineer and surveyor to the Borough of Edmonton, regarding compulsory trade union membership.

At a meeting of the Edmonton Borough Council on August 28, a letter from the Minister of Transport was considered, which stated that unless the condition of appointment was withdrawn, the Minister would be unable to make a grant from the Road Fund towards the salary of the successful applicant.

A resolution "that the Council should meet the Minister's requirements" was passed unanimously.

J. H. W. TURNER,
Hon. Secretary,
Engineers' Guild, Ltd.

Abbey House,
2, Victoria-street, S.W.1.

MASONS' TOOLS

To the Editor of *The Builder*

SIR,—I notice in your issue of August 10 that Lt.-Col. B. C. G. Shore asks you to stop this correspondence before my foreman pulls out "something high." May I assure Lt.-Col. Shore that he has already had his say in the matter, but I am afraid that much of it was unprintable.

The words used by Lt.-Col. Shore, as reported in *The Builder* of July 6, were: "It is important to understand the difference from inception to detailed finish between mediæval and renaissance work. Mediæval craftsmanship and therefore its repair is highly individualistic. Mason's tools have always been few and simple—small axe or adze, plain chisel, claw-tool. Latterly stones have been sawn and rubbed."

I may be wrong, of course, but if I were a layman the above would lead me to think that masons' tools always have been, and still are, an axe or adze, plain chisel and claw-tool, but that "latterly stones have been sawn and rubbed," presumably to get a finer finish than that of the mediæval mason.

I feel certain that Lt.-Col. Shore is a busy man and, like myself, has no time to waste on what can only be a very unprofitable argument and so, if he will assure me that the mediæval mason used only "a few tools of a few simple types," namely an axe or adze, etc., when building our many magnificent Cathedrals, both my foreman and myself will rest content.

Incidentally, when restoring some of our bomb-damaged mediæval churches in Kent and Sussex, we have found that we are apt to need more tools of varying types, some of them even improvised, than we do when carrying out completely new stonework.

W. L. WILKS.

126, Old-road West, Gravesend.

ADMIRALTY TENDERS

To the Editor of *The Builder*

SIR,—It was stated in the report on the Builders' Brains Trust, published in your issue of July 27, and also mentioned in Mr. H. Clayton's letter published in your issue of August 10, that a rule was imposed by the Admiralty whereby the contract was awarded to the contractor whose tender figure was not the lowest, but next to the lowest.

It is thought necessary to state that the Admiralty has no such rule.

The Admiralty reserves to itself the right not to accept the lowest or any tender but, subject to this, the lowest tender would normally be accepted provided that it were satisfactory in all other respects.

H. G. O. CROSS,
For Chief of
Naval Information.

Admiralty, London, S.W.1.

BOOKS

A POCKET GUIDE TO MODERN BUILDINGS IN LONDON. By Ian McCallum. Pp. 128. Illustrated. (London: The Architectural Press.) Price 3s. 6d.

THE BUILDINGS illustrated and described in this well-produced pocket-book are modern in the sense that they belong to the modern school, and not simply on account of the date of their erection.

The author contributes a useful foreword, intended for the layman rather than the specialist, in which he seeks to explain the fundamental principles of the devotees of modern architecture. The stages of development are traced from the advent of the great engineers a hundred years ago to the establishment of a new architecture and, the latest phase, the reformation of environment by suitable large-scale planning.

The attempt has been made to provide a general cross-section of the subject within a radius of seven miles from the centre of London. This area has been divided into four geographical regions, and maps are supplied showing the locations of the various buildings. The stranger to London will be grateful for the detailed information on bus and Underground routes describing means of access.

All types of buildings are included in the guide, from the famous penguin pool in the Zoological Gardens to flats, office blocks and individual houses, though flats seem to predominate. The R.I.B.A. building is included for, "in spite of the neo-classical nature of the design, the purpose of the building gives it an obvious claim to inclusion in this sort of guide." On the whole, the selection of buildings is well balanced, and if the book causes any irritation it will be rather because of a certain arrogance in its assumption that there is no room in the world for other than the modernists' than from any lack of accurate information.

PRACTICE AND PROCEDURE FOR THE QUANTITY SURVEYOR. By A. J. Willis, F.R.I.C.S., Hon. F.I.Q.S. (Crosby Lockwood and Son, Ltd.) Price 18s. net.

TIME was when quantity surveying practice comprised almost exclusively the preparation of bills of quantities and the subsequent settlement of variations, and a treatise on practice and procedure for the quantity surveyor would then have been little else than an exposition of the technicalities of taking-off and matters ancillary. In recent years, however, the complete quantity surveyor has found it necessary to be very much more versatile in his accomplishments, and the range of his activity in matters concerning the building industry is wellnigh all-embracing.

Mr. Willis has hitherto very thoroughly covered the technical field of his profession, and in turning his attention now to the overall picture of quantity surveying practice, chiefly for the benefit of the budding practitioner, he presents a comprehensive survey of the gamut of the profession and of those matters with which a surveyor in practice has to equip himself to contend. One feels that there is much here that reflects the personal experience of the author, and one has no quarrel with Mr. Willis when he says: "I have concentrated on the smaller office and the younger man . . . other readers must not mind if they find the picture a little out of focus. . . ." It is of no little interest to observe private practice through other people's spectacles and to notice where the common denominators occur, and Mr. Willis is to be congratulated upon his skilful presentation of the many and various facets of the profession and the related problems of office and policy and management, finance, law and partnership. One modern feature that is missing, on which one would have liked to hear the author's views, is profit sharing.

Here and there one begs to differ, as is only natural, and it is always entertaining, with the most friendly malice, to take an author up when he expatiates, for instance, on the desiderata of letter writing. When Mr. Willis advises "avoid slang," for example, one recalls with a shiver that inelegant remark of his with regard to the persistent traveller—"If a particular one is pestering he can be 'choked off.'" Again, on the advice of being explicit one can point to a recurring phrase in this work: "on a job of any size"—"in a business of any size"—"in a contract of any size," when what is meant appears to be "if a job, business, contract, etc., is large enough." An important feature in letter writing not touched upon, however, is the necessity for correctly dating a letter. In this the young practitioner should not follow Mr. Willis when on October 23 he confirms an appointment to meet a contractor on "next Tuesday, September 19." No wonder those final accounts take so long to settle!

A very useful, yet concise, bibliography is included in this work, the only omission noticed being on "Building Contracts," where Walker-Smith and Close's running commentary on the R.I.B.A. Form of Contract deserves mention. S. H. H.

OLD ARCHITECTURE OF PARIS

By B. S. TOWNROE, HonARIBA

THIS year Paris is celebrating its 2,000th birthday. Special arrangements have been made to enable students of architecture to visit many buildings not usually open to the public. A list of these was included in the advance official programme.

Certain buildings, rarely visited by British tourists, are here selected in the hope that architects and builders attending the celebrations will find time to see them.

The oldest remains are those of Roman Paris. Julius Cæsar summoned an assembly of the Gauls in 53 B.C. at Lutetia, then a Gallic settlement surrounded by a stockade, on the island now called the Ile-de-la-Cité. The remains of the Roman town include the amphitheatre in the Rue Monge; the so-called "Baths" close to the Cluny Museum; and out in the suburbs a few arches of an aqueduct at Rungis. The well-known Rue Saint Jacques was built along the old Roman road which passed through Lutetia on the way from London to Rome, the road built by Julius Cæsar and later used by Napoleon. Remains of the Roman paving of the Strada Romana have been excavated during recent reconstruction.

Surviving mediæval buildings can chiefly be found in the 4th Arrondissement. This is natural as this district contains more than half of the original Gallic settlement. Here King François I sold off his land on which rich Paris merchants built their city houses. It has been said that this is the only part of Paris where the mediæval inhabitants, if they were to return to France, would be able to find their way about. It contains many churches dating from as early as the twelfth century.

Old Abbey Remains

The programme of the birthday celebrations draws special attention to the Protestant Church, known as Les Billettes, with the only surviving mediæval cloister, and Sainte-Etienne-du-Mont, part of the Abbey of Sainte-Geneviève. This abbey, built on the site of the tomb of Clovis and Sainte-Geneviève in the ancient Christian cemetery, is in the student quarter close to the Sorbonne. Part of the site is now occupied by the well-known boys' school, the Lycée Henri IV. Of the abbey buildings there still remain the refectory, 100 ft. long (built in the thirteenth century), the fifteenth-century cloister; the seventeenth-century kitchens and the library now converted into dormitories.

In Montmartre, so often identified in the English mind with night clubs, one street once led to the great Temple of Mercury (where the church of Sacré Cœur now stands). Close to this may be found the little-known church of Sainte-Pierre de Montmartre, consecrated in 1147. Here Dante worshipped and Saint Ignatius Loyola planned the formation of the Jesuits. It is believed that the four Roman columns in this church may well have come from the Roman Temple of Mercury. Another survival from the Middle Ages is the Church of Sainte-Germain-des-Pres, in the centre of the present Latin quarter, which is in bad repair. It is almost the only church in Paris where the Romanesque style, so popular in Normandy and Burgundy, can still be studied.

Of domestic buildings, the oldest house in Paris is No. 3, Rue Volta, a half-timbered house probably built early in the fifteenth century. Those who do not know the architectural treasures of Paris should certainly visit the Museum of Arts. The outside is shabby but inside will be found a hall 150 ft. long and one of the finest examples in Europe of Gothic architecture. A little-known building is the curious Cour de Roha, also dating from the fifteenth century, in which part of the old city wall may be seen. The Museum of the French Revolution, administered by the City of Paris, the Musée Carnavalet, is housed in a number of mansions, some of which date from the Renaissance period.

Seventeenth-century Survivals

To be seen also are plenty of well-known survivals from the seventeenth century, such as the Palais Royal; but probably few English visitors visit the Hospital of Sainte Louis, built in 1606 and one of the finest examples of the Louis XIII style, or Les Gobelins, where King Henry IV started two Flemish weavers weaving tapestries and carpets and which is now a State furniture store. The Hotel de Lauzun is the finest of all the beautiful houses on the Ile-Saint-Louis. It was well chosen by the Paris City Council for the reception given in honour of Princess Elizabeth in 1948. It is particularly noted for the interior decoration, but the City Fathers are finding the cost of maintenance of yet another famous mansion almost prohibitive under present conditions.

Of the survivals of the eighteenth century, the Revolution, the Empire, the restoration of the Second Empire and the Third Republic, many of the buildings are already well known. It is the intention, however, of those organising the birthday celebrations to throw open to visitors other less celebrated but no less interesting historic and artistic buildings.

CLOSED SHOP POLICY OF DURHAM C.C.

Engineers' Guild Letter to Minister

THE Engineers' Guild have taken up with Mr. Alfred Barnes, Minister of Transport, the question of the closed shop policy of the Durham County Council. The Guild have sent a letter to the Minister saying that they have been unable to obtain an assurance from the county council that the closed shop principle is not being applied in the appointment of professional engineers.

Because, after several requests, the Guild have been given no assurance by the council that engineer applicants would not be questioned about trade union membership, they have asked Mr. Barnes to stop payment of grants towards the salaries of engineers already employed by the council and those appointed in the future.

The grants are made from the Road Fund and cover half the proportion of the salary which is calculated to be paid for highway work. The amount of grant varies in respect of each appointment.

The Engineers' Guild made a similar successful request to the Minister recently when Edmonton Borough Council insisted that applicants for the post of borough engineer and surveyor should be members of a trade union affiliated to the T.U.C. A letter from the Secretary of the Guild referring to the Edmonton appointment appears in our correspondence columns this week.

HIGHER DENSITY BUILDING

Saving Farm Land

A REPORT on planning standards for Hertfordshire, published recently by Hertfordshire County Council, states that of the 37 million acres forming the total area of England and Wales, only 24,300,000 is now left as food-producing land, which for a population of 44 million is a little over half an acre a head.

Upon this small area we produce half our food. Some 9 per cent. of the total area of the two countries is at present covered by town or other development, and rather less than half of this area is represented by houses with gardens large enough to make even a minor contribution to food production. During the next 20 years some 750,000 acres of land—roughly the combined area of Hertfordshire and Bedfordshire—probably will be taken out of agricultural use for development. This represents the home-produced food of some 1,500,000 persons.

Concerning the financial aspect of the case for higher density residential areas, the report states that the cheapest form of housing is two-storey terrace building to high density. Persons living in London reside largely in old, rent-controlled property at low rents. It is doubtful whether they would be prepared to take new houses in Hertfordshire at rents corresponding to modern building costs unless these were kept to an absolute minimum. The scarcity of building and engineering materials and labour also tends to favour high density.

In the report's reply to the case for higher density it is stated that the food position of the country is due to over-population. In the absence of an effective national policy for reducing the population (by emigration or other means), planning authorities must provide for the quarter of the population which needs to be rehoused. There is no hope of the country being self-supporting in food, and it would be absurd to spoil the living conditions of the urban population in pursuit of the unattainable ideal of national self-sufficiency in food production.

The report is being circulated to all district councils of Hertfordshire and other interested authorities.

OBITUARY

Harbourne MacLennan, F.R.I.A.S., M.I.Struct.E.

We regret to record the death recently of Mr. Harbourne MacLennan, F.R.I.A.S., M.I.Struct.E. He was 79 and was a senior partner in the firm of Jenkins and Marr, civil engineers, architects and surveyors, of Aberdeen, with whom he had been associated for 60 years.

Benjamin P. Greenwood, F.I.O.B.

We regret to record the death, on September 1, of Major Benjamin Passmore Greenwood, F.I.O.B., for many years a director of the firm of Messrs. Holliday and Greenwood, Ltd. Major Greenwood was the son of Mr. Benjamin I. Greenwood, joint founder of the firm with Mr. James S. Holliday. His father was president of the National Federation of Building Trades Employers in 1902 and president of the London Master Builders Association in 1892.

PRAISE FOR "PREFABS"

Features that Might be Embodied in Traditional Houses

TEMPORARY prefabricated bungalows have received their full share of criticism, both on the grounds of their undue cost, running in the case of aluminium "prefabs" to over £2,000 each, and their structural weakness. Many were only designed for a ten-year life and are already deteriorating.

The majority are to-day costing far too much in maintenance and repairs as compared with the traditional brick house. At the same time, writes a correspondent, the recent report issued by the Women's Group on Public Welfare is a warning to housebuilders that, when private enterprise returns to full productiveness, the housing schemes of the future may have to include accommodation similar to that of the prefabricated bungalows.

The fact that the *Westminster Bank Review* in its last quarterly number, just issued, devotes a column to this subject, shows its importance. The editor points out that a fair conclusion from the results of the inquiry is that, generally speaking, housewives found their daily task easier in the "prefab" than in ordinary houses. Many of those who had recently moved into a permanent house from a bungalow still thought so.

The advantage lay chiefly in the superior design of the "prefab" kitchen, which won almost unanimous praise from the women. The bank points out that not only on the distaff side did the kitchen of a "prefab" arouse envy. Many a dishwashing husband would note approvingly the draining boards on both sides of the sink, with a light above (instead of in the middle of the ceiling so that the dishwasher is always in his own light). All the kitchen equipment, including work-bench, cooker and refrigerator, is arranged along one wall, and cupboards occupying the vacant space below extend right down to the floor, so that dust cannot get underneath.

The lesson drawn by the *Westminster Bank Review* is the desirability of more of this kind of planning in permanent houses and flats. It is asked how much house room goes to waste because people who might prefer a well-designed flat are obliged to occupy a house with more space than they need, and face the problem of increased maintenance, because there is no satisfactory alternative at a reasonable price.

Burden of Housing Subsidies

There are many signs to-day that housebuilding may return before long to its pre-war position. The Chancellor of the Exchequer must be very disturbed at the rapidly increasing load of housing subsidies, now about £60 million a year, to be included in his budget. He is facing pressure for increased subsidies from local authorities, where the rates are having to bear heavy losses on municipal housing. Private enterprise housing provided homes in pre-war years without either taxpayer or ratepayer having to pay any contributions.

Before long the building societies may be given new opportunities for the profitable use of their accumulated funds Accordingly, the leaders of the building society movement, and also housebuilders, would be wise to take to heart the warnings contained in this report of the Women's Group on Public Welfare. It should not be dismissed as a mere feminine outcry. Many housewives and their husbands have learnt how trying is the burden of work in the kitchen, and how this can be lightened by better planning and the use of modern equipment. In these matters we are far behind the United States of America, as far as new homes are concerned. The report deserves to be carefully considered by the Building Societies Association and by the Federation of Registered Housebuilders.

ARGON ARC WELDING

British Experience in the Process

THE comparatively high cost, due to the price of argon and the initial outlay for equipment, was said to be the chief deterrent at present to the wider application of argon arc welding, in a paper submitted to the International Welding Congress recently by MR. W. V. BINSTEAD and DR. E. G. WEST, Ph.D., B.Sc. They continued:—

It is not yet possible to give an average figure for cost per ft. run of weld as the variables are too numerous and scattered to allow a reliable estimate to be made. Thus, the data provided to the authors show a range from less than 1s. to over 6s. per foot run of weld, in which possibly more than 50 per cent. is accounted for by the cost of argon. Nevertheless, the process is economic for many types of work in place of oxy-gas or metallic arc welding, as the relatively expensive washing operations are not required and there are few restrictions on the type of joint which can be used. There is no doubt that the present costs will be substantially reduced as experience is gathered; as more efficient equipment and procedures become available; as the total consumption of gas increases; and as welding operators improve in efficiency.

Equipment

It is desirable that several disadvantages of the present equipment be overcome without delay. The electrical plant is, necessarily, more complicated than that required for metallic arc welding and appreciably more than gas welding equipment, and this has a considerable bearing on initial cost of plant. Furthermore, the complexity of the equipment calls for more skill to maintain the plant in a first-class condition. Some portions of the plant are more robust, particularly for shipyards and site working—for example, an immediate requirement is a stronger type of gas and water tubing which is at present readily damaged mechanically or by contact with hot metal. A stronger tube must not be less flexible and this question is equally important in the consumable electrode process. Every means must be adopted to reduce gas consumption by designing the most efficient nozzle; by providing shields; and by incorporating economisers and gas control devices in the equipment, either by way of electrically controlled valves in the plant or some form of control on the torch. It would also be desirable to increase the operator's vision of the weld pool by modification of the design of existing ceramic or water-cooled metal gas cups.

A very useful purpose would be served by the incorporation of some means of eliminating craters, which are caused by piping at the end of the weld bead on solidification. In cases where welds must be gas or liquid-tight this form of "pin-holing" can be very troublesome, especially as it proves at times very expensive on argon gas before complete water-tightness is attained.

Undoubtedly the most urgent need is to make available here the consumable electrode-type of equipment, as the success achieved with it in the United States shows it is likely to be the most useful method of welding available for shipyards and site work. It is also likely to reduce difficulties at present experienced in making inside corner welds, but it must not be overlooked that the consumable electrode process may bring in its train problems of a metallurgical nature which require to be thoroughly investigated before the process can be regarded as fully efficient; for example, the filler wire must be free from gas and its condition must be such that it runs without difficulty through the torch.

Another item worthy of mention affects the efficiency of the operator; namely, the provision of suitable head shields, gloves and other necessary protectives. The need to wear a complete head shield with dark glass rather than the lighter-tinted goggles used in gas welding, reduces the operator's speed. Many operators still refuse to wear gloves and other protective clothing to prevent the ultra-violet and infra-red rays affecting the skin, and attempts to reduce the incidence of skin damage must be considered. The close collaboration of training establishments is essential in this respect.

Procedure

The welding procedure necessary for the production of satisfactory butt welds in the downhand position is well established, and fillet welding is on almost as satisfactory a basis. The use of the normal argon arc process in any other position is, however, more difficult, and overhead welding cannot be recommended at present. Welding in all positions, however, is possible with the consumable electrode process, and fillet or inside corner welds are readily made by this method. More investigation is required in order that firm recommendations can be made on the procedure for positional welding and practical data are also desirable on the production of short lengths of weld, particularly in thin materials.

A great deal of argon is wasted and welding times are unduly long because it is difficult for operators to obtain detailed information of welding conditions for typical assemblies or combinations of metal sizes. Information of this kind can be derived only from practical experience and it is in this respect that the users of the process are best able to help themselves and also other users. An all-round improvement in efficiency and a continual reduction in cost should then be achieved. Every endeavour must be made to adopt a welding procedure which allows as long a useful welding time to as short an off time as possible in order to reduce to a minimum the number of times in which the electrode cools with the argon flowing.

OBSTACLES TO HOUSEBUILDING

Homes—Democracy's Cornerstone

OBSTACLES to speedy housebuilding, such as obsolete bye-laws, fussy Ministry regulations and serious delays in payment of builders' accounts by local authorities, should be put right, declared MR. G. M. WILLIS, secretary of the Eastern Counties Region of the Federation of Master Builders, when he spoke at a meeting at Lowestoft on September 3. Referring to the shortage of living accommodation, Mr. Willis said that homes were the cornerstone of the democracy that Britain was rearming to preserve.

ARTIFICIAL LIGHTING IN SCHOOLS

"A Sorry Picture"

"THE electricity supply industry has much to offer public authorities and Governmental bodies in the way of assistance in lighting matters. The promotion of street lighting has shown what can be done by a policy of active promotion at high level. The same kind of activity is needed in other directions and particularly in the field of school lighting which, at the moment, presents a sorry picture," said MR. W. ROBINSON, B.Sc., A.M.I.E.E., F.I.E.S., in the course of a paper on "Lighting Opportunities," which he read at the annual sales management conference of the Electrical Development Association in London.

Much lip service had been given to this problem, but conditions of school lighting remained disgraceful and they would not change until the relevant organisations received from the electricity supply industry the necessary spur to action, Mr. Robinson continued. Just as the development of street lighting was a long-term process involving only small immediate profit, so should school lighting be tackled. In both cases education of administrators and direct assistance by demonstration installations were the key to promotion which, whatever the financial gain, could do nothing but good for the public and for public relations.

School lighting was left too much to the individual preferences (and prejudices) of architects and educationists, and it was time that other voices were heard concerning this problem. It was commonly considered that day schools got enough daylight for their purpose and that artificial lighting was not needed for more than 150 hours in any year. Anyone who took the trouble to take lightmeter readings in a classroom could prove differently.

As a result of this point of view it was common practice to build schools with the emphasis almost 100 per cent. on natural lighting arrangements at disproportionate expense, while decrying fluorescent lighting in day schools because of its cost. The fact was that fluorescent lighting had everything to recommend it for school lighting, and only needed putting forward intelligently and on its merits to find general acceptance in its proper function of augmenting, rather than substituting for, daylight. The electricity supply industry was in a position to bring influence to bear in prompting unprejudiced thinking on those matters and to render the nation a great service. A very interesting example of what could be done in this connection was a case of school lighting development in America in which the Public Service Company of Colorado played a large part.

American Example

In brief, a questionnaire sent to the 80 schools in Denver showed that lighting was the greatest source of complaint in regard to the physical needs of the buildings. The problem had been realised four years earlier by the Public Service Company, who had had a standing offer of full co-operation with the schools' management over that period. It was natural, therefore, that they should be asked for help when it was decided to re-light the schools. The steps taken then were:—

(1) A schools management official was sent to the Lighting Institute at Nela Park for a course of instruction on school lighting.

(2) On his return his ideas were tried in the form of trial installations by the Public Service Company, who were able to gain approval to standards even better than those proposed by allotting a member of the staff to give extensive demonstrations and lectures to teachers and managers.

(3) Finally the schemes proposed by the Public Service Company were accepted for the whole 80 schools.

The whole scheme involved 22,500 fluorescent twin lamp fittings and an increase in classroom illumination from 5 up to 45 foot-candles. In all, 1,700 classrooms were re-lighted, the lighting being used for eight hours every school day.

It was impossible to visualise such a course of lighting development occurring without the active intervention of the supply authority, just as school lighting in this country, if left to architects, educationists or manufacturers' salesmen, had little hope of large-scale improvement.

MINING SUBSIDENCE

Effects on Small Houses

A REPORT*, now issued in the Ministry of Works series of National Building Studies, is the work of an inter-Departmental Committee convened by the Ministry, to investigate method of preventing or minimising damage caused by surface subsidences to houses in mining areas.

The Report considers subsidence in coal-mining areas only, and investigation was limited to the effects on small houses. A preliminary survey was made of 34 coal-mining areas, and 10 of these were studied in detail. Advice on certain aspects was given by the National Coal Board. Methods of working which give rise to mining subsidence are briefly described, as are the nature of various subsidences and surface movements.

Complete protection of houses against damage by all movements due to subsidence is generally impracticable and uneconomic, says the Report. Nevertheless, houses can be made more resistant to mining movements by making a number of simple changes in normal design—without incurring a large increase in cost. The Report recommends precautions to be taken in the layout and construction of houses. For example, buildings should be sited so that the shorter axis coincides with the direction of anticipated maximum curvature of the ground. A structure of simple box form, designed to act as a unit, is best; the smaller the plan of the building the less likelihood there is of damage. Terraces, when desired, can be made by building in units with adequate gaps between them to permit movement. Semi-detached houses are preferable to terrace houses, detached are preferable to semi-detached. A bungalow is more likely to be damaged than a detached two-storey house with the same total floor area.

Use of R.C. Base Slabs

The provision of a reinforced concrete base slab, combined with the other recommendations made, will prevent any appreciable damage except where large differential vertical movements occur. The weakest mortar, consistent with the normal load-carrying requirements, should be used to allow the walls to adjust themselves to moderate changes of curvature of the ground without serious cracking. The resistance of the walls to flexure may be increased by the introduction of steel reinforcement in the brickwork, but the cost is justifiable only in houses certain to be subjected to severe differential vertical movements, such as those near the boundaries of mine workings.

A typical pair of semi-detached houses of traditional construction are illustrated, comparative plans and elevation being given to show modifications to make the building more suitable for mining areas—narrower windows to provide greater surrounds of brick, windows altered in position or omitted, continuity broken between buildings, etc. The principal alteration is the substitution of a reinforced concrete base slab for the normal strip footings. Three schemes are worked out to show the basis of design of the reinforcement. They can be simply adapted for other loads and other qualities of steel than those given. It was estimated at the time of the investigation that the extra cost per house for the reinforced base slab over that of the normal footings ranges from £13 to £20, with a further £5 for modifications to drainage and to the spine wall.

Some typical effects of subsidence on buildings, garden walls, kerbs and paving slabs are illustrated by photographs. The Report discusses the difficulties of assessing the probable damage to projected buildings by future subsidence. It states that when subsidence is likely it is necessary to estimate whether it will be so small that no precautions in building other than general good workmanship are necessary, whether it will be sufficient to merit special strengthening in the building, or whether it will be so great as to make the site unsuitable for building. The necessity of having full information is stressed.

Technical information, not readily accessible elsewhere, is contained in this Report, which will thus be of interest to local authorities, architects, town planners and others in areas where subterranean excavation is causing settlement and surface disturbance.

* "Mining Subsidence. Effects on Small Houses." National Building Studies Special Report No. 12. Published for M.O.W. by Stationery Office, price 1s. 9d.

BUILDING COURSES IN 1951-52

L.M.B.A.'s Memorandum

As a practical step to the carrying out of its policy of emphasising the importance of education for members of the building industry, and also to stimulate interest in apprenticeship, the L.M.B.A., has published a revised edition of its memorandum on Building Courses at Technical Colleges and Schools in the London Region.

The first edition, published last year, was well received, and still remains the only volume giving a complete list of technical schools and colleges in London. The new edition contains full details of building courses available at London technical colleges for the academic session 1951-52, and a map showing the exact position of the colleges. It is available to members on application to the Secretary, L.M.B.A., 47 Bedford-square, W.C.1.

The Iveagh Bequest

The London County Council have published a short account of the history and architecture of Kenwood House, written by Mr. John Summerson. It is in two parts. The first is a short history of the house and its owners and the second is intended as a guide for visitors looking over the house.

THE SOFTWOOD POSITION

Price of Yugoslav Whitewood

MESSRS. Horsley, Smith and Co. (London), Ltd., write: We regret the necessity for pointing out further discrepancies in the last statement of your correspondent (*The Builder*, August 24). One misstatement is one made by us as well as him. The price of £87 10s. 0d. per standard is c. and f. not c.i.f., which means that marine insurance must be added to the £87 10s. 0d.

Timber Control's contract does *not* include discharging costs. Therefore, an additional 15s. to 25s. per standard must be paid for discharging the goods over the ship's rail. The control, through N.S.B., Ltd., are no longer selling ex-ship, but now sell c.i.f., to which figure the importer must pay Customs duties, etc.

We are at a loss to understand where your correspondent obtains his figure of 22s. 6d. per standard cost to the importer of "bringing the timber into the yard." Lighterage alone must average £1 per standard or more, with such charges as piling away, demurrage, reloading, etc., to be added to this figure.

Your correspondent's final paragraph should really be enlarged. It is hardly fair to compare so broadly Yugoslav whitewood and Swedish and Finnish whitewood, and our point is that Yugoslavian whitewood will, under the new contract, cost the consumer far more than Yugoslavian whitewood being sold from the existing contract.

Our correspondent replies: The price of Yugoslavian whitewood now coming into this country must be greater than the price which applied in the summer of 1950, as Messrs. Horsley, Smith and Co. (London), Ltd., quite rightly suggest; indeed it would be difficult to find any imported raw material which had fallen in price when compared with early 1950. Surely this is not the significance of the contract to the builder. It will be recalled that at the time Timber Control was refusing to pay £50 a standard for Swedish redwood. What is important is that Yugoslavia whitewood should now be appearing on the market several pounds sterling a standard below the price of Swedish and Finnish whitewood.

As there is some difference of opinion on landing charges which the importer has to pay (for instance, lighterage is an item which does not appear at all in many of the ports handling Yugoslav timber), let us reduce the prices to f.o.b. standard, the price paid to the shipper for a standard loaded at the departure port. For some months now private importers have been paying well over £80 a standard f.o.b. for Swedish and Finnish whitewood, the general price level of offers being £83 and £84. Probably Messrs. Horsley, Smith will readily agree that the f.o.b. price of Yugoslav whitewood, as bought by Timber Control, is well under £80 a standard. Even allowing some preference for the northern product, it is doubtful whether the average builder would go so far as to value that preference so highly in pounds, shillings and pence.

The timber trade is generally willing to concede the excellence of the bargain made by Timber Control in its buying of Russian and Yugoslav timber (it is a different story with Canadian wood), and this should be seen by the builder in the prices to be charged by the trade, unless there is a misuse of the price freedom which has been given.

The builder can hardly be concerned with differences in extras in various parts of the country, or even among different firms in the same town; he is concerned with the price he has to pay for his wood. Nor is he concerned with sad stories of high replacement costs. He properly wants the timber trade to bring into the country, and pass on to him, the timber he requires at the lowest cost. If this is done with Yugoslav whitewood he should be pleased with the result. The fact that the writer can claim that the quayside extras for two major importers are 22s. 6d. a standard really does not count.

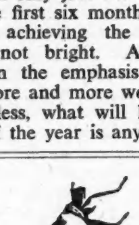
HOUSING PROGRESS ANALYSED

"1951 a Disappointing Year"

IN an analysis of the housing statistics for the six months ended June 30 last, published by the National Council of Building Material Producers in their weekly information sheet, 1951 is stated to be turning out a "disappointing year." Attention is drawn to the longer time it is now taking to complete a house compared with the last two years. In 1949 the average construction period was just under 12 months; in 1950 just a year; and at the end of June, 1951, about 12½ months.

Further evidence of the "unbalance" in the housing programme is seen in the fact that at the end of June the number of started but unfinished houses had reached the "very high level of 214,101," a fact which is "a matter for some anxiety when at the same time the hope of building 200,000 houses this year gets more remote as each month's completion figures are reached."

Summing up the progress of the housing programme for 1951, the information sheet states that there is little encouraging to report. "With only just over 92,000 houses finished in the first six months of the year, prospects of achieving the 200,000 programme are not bright. At the present moment, when the emphasis seems to be on starting more and more work and finishing less and less, what will happen in the second half of the year is anybody's guess."



REMEMBER

HELICON FLOORS

ARE FIRE-PROOF

AND

SOUND RESISTING

Helicon

THE HELICAL BAR & ENGINEERING CO. LTD.
82 VICTORIA STREET, WESTMINSTER, LONDON, S.W.1
Phone: VICtoria 6838
Resident Agents: Birmingham, Middlesbrough, Newcastle
M-W.53

NEW SOURCES OF CEMENT IN HOLLAND

Discovery of Anhydrite Deposits

From a Correspondent

A CONSIDERABLE addition to the Dutch production of cement is envisaged from the exploitation of deposits of anhydrite (anhydrous calcium sulphate), which have been discovered at a depth of some 280 metres in the Weerselo and Schoonlo districts of Holland. The deposits are from 11 to 16 metres thick, and overlie salt formations. Anhydrite yields such products as gypsum, sulphuric acid, cement, ammonia and sulphate.

At present the bulk of Holland's home-produced cement comes from Mount St. Peter at the southernmost tip of the province of Limburg in the Maastricht area where, about a quarter of a century ago, the N.V. Eerste Nederlandsche Cement Industrie of Maastricht was granted a concession to work the quarry by modern industrial methods. For three years after World War II, however, discussions were being carried on as to whether to allow E.N.C.I. to continue working at Mount St. Peter, since it is also a well-known beauty spot. It was finally decided to grant an extension of a further 92 hectares on the southern slope of the hill as a result of which yearly production would be increased by about 200,000 tons.

Total annual Dutch production of cement is about 600,000 tons, which covers only one-half of domestic requirements. In view of this unsatisfied balance in home production, and also because of the world-wide shortage of sulphur and sulphur products, much interest has been taken in the recent findings and the Central Institute for Industrial Development has carried out investigations into the possibility of exploiting these resources. The results of their researches show that, in the opinion of the Institue, it would be necessary to instal four plants, at a cost of approximately £9,524,000, to achieve an annual output of 600,000 tons of anhydrite valued at approximately £6,095,000.

PLASTERBOARD SHORTAGE

Salvage Paper Needed

"THE plasterboard situation continues to be difficult," the North-Western Regional Board for Industry stated on August 27 in regard to building materials for the North-Western Area. "Although there is more raw material available for plasterboard manufacture, the industry has to compete with other users of salvage paper used in the manufacture of this product."

In respect of cement, the Board states: "Despite the increasing production of cement, the shortage of paper bags has created distribution difficulties. The storage silos of cement manufacturers are loaded, and they are urging cement users to take cement in bulk to ease the pressure. Cement users could really help the situation by salvaging all cement paper bags and returning them to the manufacturers."

Royal Colour Choice

The British Colour Council announce that Edinburgh Green and Elizabethan Rose have been chosen by H.R.H. The Princess Elizabeth, Duchess of Edinburgh, Patron of the British Colour Council, to commemorate their Royal Highnesses' tour of Canada and the United States of America.

PRICES CURRENT OF MATERIALS*

NOTE.—These prices apply to large quantities of materials at works, at London stations, or site, in London area as stated. Prices for smaller quantities ex merchant's warehouse will, of course, be higher. Owing to the exceptional circumstances which prevail at the present time, prices of materials should be confirmed by inquiry.

BRICKS, Etc.

	£ s. d.
First Hard Stocks	9 18 6
Second Hard Stocks	9 8 6
Mild Stocks	8 3 6

All loaded free into lorry at the works. The question of haulage is still very difficult and prices must be obtained from job to job.

2⅝-in. Nominal Phorpres Bricks.	At Maiden Lane Stn. per 1,000	To Sites in W.C. District per 1,000
	s. d.	s. d.
Commons	84 9	100 9
Cellular (No del. at present Lon. Stns.)		100 9
Keyed	86 9	102 9
Rustics	109 9	125 9
Cellular Rustics		125 9
Single Bullnose	104 9	120 9
Sandfaced	124 9	140 9
Cortex Facing Brick ...	99 9	115 9

	£ s. d.
Best blue Pressed Staffs. (London Stns.) ...	21 0 0
Do. Bullnose (London Stns.)	21 14 0
Blue Wire Cuts (London Stns.)	18 16 6
Midhurst Lime Bricks (Del. London Sites)	9 0 0
Uxbridge Whites (Del. London Sites) ...	7 10 0

Best Stourbridge Fire Bricks (London Stns.) :—

£ s. d.	£ s. d.
2½ in. ... 20 15 0	3 in. ... 24 16 6

GLAZED BRICKS (London Stns.). The prices given below are now subject to a percentage addition of 50 per cent. for Best, and 45 per cent. for Second quality.

Best White Ivory and Salt Glazed			D'ble Stretchers	53	0 0
			D'ble Headers	48	10 0
Stretcher	40	0 0	One side & two ends	54	10 0
Headers	39	10 0	Two sides & one end	56	0 0
Quoins, Bullnose & 4½ in. Flats	50	0 0	Splays and Squints	52	0 0

Second Quality, £2 0s. per 1,000 less than best, plus 45 per cent. Cream and buff. £2 0s. extra over white. Other colours, Hard Glaze, £5 10s. 0d. extra over white.

Haulage to site 30s. 1,000.

PARTITION SLABS.

Delivered Central London Area.

HOLLOW CLAY PARTITION BLOCKS.

London Brick Company.

Minimum Lorry Loads.	Keyed	s. d.
2 in. per yd. sup.	125 yds.	3 11
2½ in. „ „	115 „	4 2
3 in. „ „	105 „	4 8
4½ in. (3 cavity) per yd. sup.	80 yds. ...	6 1
4½ in. (6 „) „ „	75 „	6 8

Half blocks *add* 1s. per yard super to above prices.

CLINKER CONCRETE.

2 in. per yd. sup.	2 11½	3 in. per yd. sup.	4 0½
2½ in. „ „	3 6	4 in. „ „	5 2

J. H. Sankey and Son. "Cranham"

2 in. per yd. super	5 4
2½ in. „ „	5 10
3 in. „ „	7 0
4½ in. „ „	8 8

Delivered site London.

STONE.

	s. d.
BATH STONE—	
Monks Park...	5 11
St. Aldhelm Box Ground	6 11
Delivered in railway trucks at South Lambeth. G.W.R., per ft. cube.	
DOULTING STONE RANDOM BLOCKS Delivered London ... ... per ft. cube	6 11
BEER STONE, Delivered London per ft. cube	8 6
PORTLAND STONE—	
Brown Whitbed, in random blocks of 20 ft. average, delivered in railway trucks at Nine Elms, S. Rly. ... ... per ft. cube	6 11
NOTE.—1d. per ft. cube extra for every ft. over 20 ft. *average* and ¼d. beyond 30 ft.	
HOPTON-WOOD STONE—	
F.O.R. Quarries, Wirksworth, Derbyshire, Random blocks up to 3 ft. 3 in. long and not over 10 cu. ft. ... ... per ft. cube	27 0
Slabs—Random sizes sawn 2 sides, up to 5 ft. long and not over 15 ft. super ¾ in. per ft. super	6 10
YORK STONE, BLUE—*Robin Hood Quality*. Delivered at any Goods Station, London.	
6 in. sawn two sides landings to sizes (under 30 ft. super) ... ... per ft. super	11 3
6 in. rubbed two sides, ditto „ „	13 0
3 in. sawn two sides slabs (random sizes) ... ... „ „	5 9
2 in. to 2½ in. sawn one side slabs (random sizes) (paving) ... „ „	3 6
1½ in. to 2 in. ditto ... ... „ „	3 4
HARD YORK—	
Delivered at any Goods Station, London.	
Scrappled random blocks per ft. cube	15 9
6 in. sawn two sides landings to sizes (under 30 ft. super) ... ... per ft. super	12 10
6 in. rubbed two sides, ditto „ „	14 10
4 in. sawn two sides slabs (random sizes) ... ... „ „	8 5
3 in. ditto ditto ... ... „ „	6 5
2 in. self-faced random flags per yd. super	23 1

CEMENT.

	£ s. d.
Best British Portland Cement. Standard Specification delivered Charing Cross area. 6-ton loads and upwards site..... per ton	4 15 3
1- to 6-tons site (including non-returnable paper bags or jute sacks)	5 0 3
"Ferrocrete" Rapid Hardening Cement at 6-ton loads and upwards site	5 3 3
1- to 6-tons site (including non-returnable paper bags or jute sacks)	5 8 3
'Aquacrete" Water Repellent cement, 32/6 per ton on ordinary "Blue Circle" prices (including non-returnable paper bags).	
Red, Buff or Khaki "Colorcrete" in 6-ton lots (including non-returnable paper bags)	6 16 9
Other colours, according to colour. In 4-ton lots from 190/3 to 414/3 per ton (including paper bags).	
"Snowcrete" White Portland Cement (including non-returnable paper bags).....	12 12 9
Under one ton ..... per cwt.	15 0
"417" Cement (Ultra Rapid Hardening) Delivered Site Charing Cross Area in 6-ton lots and upwards (including non-returnable paper bags)	6 7 9
Super Cement (Waterproof) in London Area 32/6 per ton above Portland Cement, including bags.	
Cullamix Tyrolean Finish, £8 14s. 3d. to £10 7s. 9d. (1-ton lots and upwards, including cost of paper bags).	
Lightning and Cement Fondu Brands, High aluminous cement, 1 ton lots and up 255/- per ton, packages 22/- per ton extra.	
White Keen's or Parian Cement.....	9 9 0
Pink Keen's or Parian Cement	9 4 0
D/D site in 1-ton loads.	

PLASTER.

	£ s. d.		£ s. d.
Coarse, Pink	6 14 3	Sirapite Coarse	6 18 0
„ White	7 2 0	„ Fine	7 6 0

Above prices for 1-ton loads and over London Area.

Blue Lias Lime, inc. bags 6-ton lots	6 8 3	Hydrated Lime, 6-ton lots	5 9 0
Granite Chips, 6-ton lots ...	2 3 0	Lump, Lime, 6-ton lots	4 8 6
		Hair, per cwt. ...	4 17 6

Stourbridge Fireclay in paper bags 6-ton lots at railway depot 5 18 0

BOOKS FOR BUILDERS

HOW TO ESTIMATE

By JOHN T. REA

The *new 11th edition* has been brought up to date to September, 1950, with tables giving cost increases for materials and labour for 1936-7, 1939 and 1944-50. Over 680 illustrations.

21s. net (by post 21s. 10d.)

DRAINAGE AND SANITATION

By E. H. BLAKE

10th Edition just published.

"... this has become a standard volume covering in a concise and compact measure the whole subject."—*The Engineer.* Revised and re-illustrated.

15s. net (by post 15s. 9d.)

FLETCHER'S QUANTITIES

Revised by A. E. BAYLIS

12th Edition revised.

This famous work presents, in tabulated form, the methods of the valuation and measurement of building and engineering work. 700 pp. Many diagrams.

30s. net (by post 31s.)

THE PRINCIPLES OF STRUCTURAL MECHANICS

By PERCY J. WALDRAM

3rd Edition revised.

"The success of the book depends not merely on the author's obvious mastery of his subject... but even more on his uncommon gift of lucid explanation." —*The Architects' Journal.*

18s. net (by post 18s. 9d.)

B. T. BATSFORD LTD.

Retail Dept.,

15 North Audley Street, London, W.1

PLASTER AND WALL BOARDS.

Gypsum Plaster Lath or Base Board, ⅜ in. thick, 600 yds. and over in one delivery 2/2½–2/4½ per yd. according to works.

Gypsum Plaster Wall Boards, 3 and 4 ft. wide, 6 to 12 ft. ⅜ in. thick, 600 yds. and over in one delivery 2/5½–2/7½ per yd. according to works.

Carriage paid to site.

SAND.

D/D site in full lorry-loads. Average of prices for Boroughs of Westminster, Paddington, Holborn and St. Pancras.

	s. d.
Pit Ballast ..... per yd.	18 8
Pit Sand ..... „	17 6
Washed Sand ..... „	19 10
½ in. Shingle ..... „	16 11
½ in. Broken Brick ..... „	19 3
Pan Breeze ..... „	9 6

TILES.

Delivered at London rate stations in full truck loads of not less than 6 tons .....Per 1,000

f.o.r. London

Best machine-made tiles from Broseley or	£ s. d.
Staffordshire districts	11 6 0
Ditto. hand-made, ditto	13 7 0
Ornamental ditto	14 0 6
Hip and valley tiles—Hand-made	1 2 0
(per dozen)—Machine-made	1 1 0

NOTE.—Breakage in transit, purchasers' responsibility.

SLATES.

First quality slates from Penrhyn or Portmadoc carriage paid in full truck loads to London Rate Station.

Per 1,000 actual	£ s. d.		£ s. d.
24 by 12.....	88 14 0	18 by 10.....	45 10 3
22 by 12.....	77 0 0	18 by 9.....	40 14 0
22 by 11.....	69 11 6	16 by 10.....	40 11 3
20 by 12.....	64 9 9	16 by 8	31 4 3
20 by 10.....	58 3 9		

NOTE : Breakage in transit, purchasers' responsibility.

PLUMBERS' BRASS WORK.

Delivered in London.

M.O.H.

S.D. BIB COCKS CRUTCH HEAD, FOR IRON.

½ in. 86/3 ¾ in. 132/– per doz.

TOILET BIB COCKS FOR IRON.

½ in. 135/– ¾ in. 182/6 per doz.

S.D. STOP COCKS FOR IRON.

¼ in.	⅜ in.	1 in.	1¼ in.	1½ in.	2 in.	
86/–	120/–	186/–	368/–	548/–	941/–	per doz.

S.D.S. COCKS WITH TWO UNIONS FOR LEAD.

¼ in.	⅜ in.	1 in.	1¼ in.	1½ in.	2 in.	
124/–	165/–	263/–	488/–	703/–	1253/–	per doz.

DOUBLE NUT BOILER SCREWS.

¼ in.	⅜ in.	1 in.	1¼ in.	1½ in.	2 in.	
26/–	32/–	55/–	83/–	128/–	202/–	per doz.

HEAVY CROYDON BALL VALVES.

¼ in.	⅜ in.	1 in.	1¼ in.	1½ in.		
226/–	348/–	481/–	732/–	903/–		per doz.

CAPS AND SCREWS.

1¼ in.	1½ in.	2 in.	3 in.	3½ in.	4 in.	
26/–	30/–	45/–	89/–	116/–	124/–	per doz.

BRASS SLEEVES.

1¼ in.	2 in.	3 in.	3½ in.	4 in.	
31/–	42/–	72/–	87/–	109/–	per doz.

LEAD TRAPS WITH BRASS CLEANING SCREWS.

	1½ x 6 lb.	1½ x 6 lb.	2 x 7 lb.	3 x 7 lb.
Lead P.	88/6	110/–	197/–	307/– per doz.
Lead S.	106/–	132/–	216/–	408/– per doz.

SOLDER—Plumbers, 5/– lb. Timmens, 7/6 lb. Blow pipe, 7/– lb.

Copper Tubes	2/2½ per lb. basic.
Brass Tubes	2/1½ per lb. basic.

Basic prices are subject to extras.

GLUE.

	£ s. d.
Best Scotch Glue ..... per ½ cwt.	5 3 0
Croid Glue ..... 28 lb.	2 2 9

VARNISHES, Etc.

		Per gallon.
Oak Varnish	Outside	1 14 0
Fine do.	„	1 14 0
Fine Copal	„	1 14 0
Pale Copal	„	1 16 0
Floor Varnish	Inside	1 14 0
Fine Pale Paper	„	1 18 0
Hard Drying Oak	„	1 14 0
Fine Hard Drying Oak	„	1 15 0
Fine Copal Varnish	„	1 16 0
Best Do.	„	1 16 0
Best Japan Gold Size.....	„	1 8 0
Best Black Japan	„	1 4 0
Brunswick Black		1 0 0
Berlin Black		1 8 0
Knotting (patent)		1 17 0
French and Brush Polish		1 9 0
Liquid Dryers in Terebene		1 8 0

* The information given on these pages has been specially compiled for THE BUILDER, and is copyright. The aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information. Prices are subject to 2½ per cent. cash discount.

PRICES CURRENT OF MATERIALS—(contd.)
See Note at top of preceding page.

PAINTS, Etc.

		£	s.	d.
Raw Linseed Oil (5 galls.)	per gallon		21	9
Boiled Linseed Oil (5 galls.)	,,		22	3
Genuine White Lead (free kegs)	cwt.	11	7	0
Genuine White Lead Paint (tins free)	gall.	3	10	0
Genuine Red Lead	cwt.	11	3	3
Putty (free packages)	cwt.	2	18	6
Size XD quality	fkn.		9	3

Turpentine substitute can be obtained and prices vary according to quality from 3/10 gallon upwards.

METALS.

Joists, Girders, &c., to London Station	Per ton £	s.	d.
R.S. Joists, cut and fitted	45	0	0
Plain Compound Girders	50	0	0
Plain stanchions	55	0	0
Plain compound stanchions	58	0	0
In Roof Work, Trusses and Purlins	70	0	0

Note.—These prices are for standard pieces and not special pieces of an awkward nature.

MILD STEEL ROUNDS. — Ex London Stock per ton.

Diameter.	£	s.	d.	Diameter.	£	s.	d.
¼ in.	38	14	0	⅜ in.	36	9	0
⅜ in.	37	19	0	½ in. to 2¾ in.	35	2	0
½ in.	37	4	0				

W.I. TUBES.

Tubes and Tubulars.
Galv.
Class A. List price, less 12½ per cent, + 1½ per cent.
Class B. ,, ,, 7½ ,, + 9½ ,,
Class C. ,, Net. +24½ ,,
Black.
Class A. ,, less 33 ,, —32½ ,,
Class B. ,, ,, 22½ ,, —23½ ,,
Class C. ,, ,, 15 ,, — 12 ,,

C.I. Half-Round Gutters.—London Prices Ex-Works, per yd. in 6-ft. lengths.

	Gutters.	Nozzles.	Stop ends.
3 in.	2/7	2/4	8d.
3½ in.	2/11	2/7	8d.
4 in.	3/7	2/9	1/1
4½ in.	3/11	3/2	1/3
5 in.	4/3	3/6	1/5

O.G. Gutters.

3 in.	3/4	3/1	10d.
3½ in.	3/10	3/1	1/1
4 in.	4/4	3/2	1/3
4½ in.	4/5	3/8	1/5
5 in.	4/11	4/3	1/7

RAIN WATER PIPES.

Per yd. in 6 fts.	Pipes.	Bends.	Branches.
2 in.	5/3	2/9	4/1
2½ in.	5/7	3/2	4/10
3 in.	6/3	3/11	5/11
3½ in.	7/2	4/8	6/10
4 in.	8/2	5/8	8/2

NET PRICES.

Tonnage allowance—4-ton lots, 5 per cent.
2-ton lots, 2½ per cent.

L.C.C. Coated Soil Pipes.—London Prices, ex-stock.

Per yd. in 6 fts.	Pipe.	Bends.	Branches.
2 in.	6/5	4/10	5/11
2½ in.	6/9	5/5	7/4
3 in.	7/5	5/11	8/10
3½ in.	8/4	6/—	10/3
4 in.	9/6	8/2	11/10

L.C.C. Coated Drain Pipe.

	cwt. qr. lb. in 9 fts.	per yd.	Bends.	Branches.
4 in.	1 1 17	17/4	12/1	21/3
6 in.	2 0 1	25/11	25/2	43/6

Iron.—Staffordshire Crown, Merchant quality	Per ton basis in London. £	s.	d.
	36	0	0
Iron.—Staffordshire Marked Bars	44	15	0
Mild Steel Bars	31	1	0
Mild Steel Hoops	32	8	6

Soft Steel Sheets C.R. and C.A.—	Ex-Merchants Stock per ton (two-ton) lots £	s.	d.
20-gauge	38	9	0
24-gauge	39	14	0
26-gauge	40	14	0
Galvanised Corrugated Sheets, 6 ft. to 9 ft.—			
20-gauge	51	4	6
24-gauge	53	4	6
26-gauge	55	19	6
Galvanised Flat Sheets, C.R. and C.A.—			
20-gauge	52	4	6
24-gauge	54	4	6
26-gauge	56	19	6

	Per ton £	s.	d.
Cut Nails, 3 in. and up, 1 ton lots	50	5	0

All Net.

Metal Windows.—Standard Metal Windows, B.S. 990. Prices on application. British Metal Window Manufacturers' Association, Ltd.

LEAD, Etc.

(Deliveries in London 1 ton)	Per ton £	s.	d.
Lead—Sheet, English, 3½ lb. and up	204	5	0
Pipe in coils	205	10	0
Soil pipe	208	10	0
Compo pipe	207	0	0

Note.—Country delivery 10s. per ton extra, lots under 3 cwt. 6s. per cwt. extra, and over 3 cwt. and under 5 cwt. 4s. per cwt. extra, over 5 cwt. and under 1 ton 2s. per cwt. extra. Extra if cut to size. Old lead, ex-London area per ton £166 0s. 0d. Buyers pay carriage.

GLASS.

SHEET GLASS, ORDINARY GLAZING QUALITY CUT SIZES.

	Per ft. Super. d.
18-oz.	4½
24-oz. clear	5½
26-oz.	7½
32-oz.	9½

ENGLISH ROLLED PLATE AND FIGURED CATHEDRAL, ETC., IN CUT SIZES.

Over 500 ft. super of all kinds.	Per ft. d.
Rolled plate, ¼ in.	7½
Rough cast, 3/16 in.	8½
Rough cast, ¼ in.	8½
Figure rolled, and Cathedral white	7½
Figure rolled, and Cathedral tinted	10½
Rolled sheet	6
Reeded, Broad Reeded, Cross Reeded and Chevron Reeded, ¼ in. thick	9½

	d.	
Wire cast, ¼ in. thick	9½	per ft.
Georgian Wired Cast	10	,,

HOLLOW GLASS BLOCKS

		s.	d.	
P.B.	2—5½ in. x 5½ in. x 3½ in.	2	6	each net
P.B.	3—7½ in. x 7½ in. x 3½ in.	3	10	,,
P.B.	32—7½ in. x 7½ in. x 3½ in.	3	10	,,
Radiused Corner Brick to match up with—				
P.B.	2	4	6	,,
P.B.	3	6	0	,,
P.B.	32	6	0	,,

TIMBER, SOFTWOODS and HARDWOODS.

SOFTWOOD.

Carcassing £105—£115 per Standard
Joinery £120—£125 ,, ,,

"STIC B"
STONE COVERING
A DECORATIVE AND WATERPROOFING
TREATMENT FOR CONCRETE CEMENT RENDERING BRICKWORK, ASBESTOS, ETC.
"STIC B" PAINT SALES LTD.
69, VICTORIA STREET, S.W.1
WHITEHALL 9958

NEWS IN BRIEF

"Winders" not "Windows"

In the letter on Scottish low-cost housing by Mr. John A. Roberson, published in our last issue, the word "windows" in the last paragraph should have read "winders."

Courses in Chemistry

The Northampton Polytechnic, London, E.C.1, have just issued the prospectus and syllabuses of part-time, day and evening courses in pure and applied chemistry.

Builders at Golf

The autumn meeting of the Building Alliance Golfing Society will take place on the course of the Berkshire Golf Club on September 27 when *The Builder* Trophy will be played for. The annual general meeting will follow at the end of the day.

Manpower Exhibition

The Ministry of Labour and National Service's exhibition, "Manpower — the Human Factor in Industry," which is being held at the Safety, Health and Welfare Museum, Horseferry-road, London, S.W.1, was originally scheduled to close on September 29, but has now been extended until October 19. The exhibition illustrates the achievements of this country in the field of human relations in industry.

Cheshire's Development Plan

Cheshire County Council's draft development plan for the next 20 years is based on the assumption that in that period the population will have increased from 813,100 to 1,040,275. Of the overspill population to be accommodated in Cheshire, about 40,000, it is estimated, will come from Liverpool; 11,600 from Warrington; and 129,800 from Manchester. Other districts are also affected, and 125,062 more houses would be needed in Cheshire to accommodate the additional population. Of these 109,500 could be built in the time.

Lake District National Park

Mr. Hugh Dalton, Minister of Local Government and Planning, has made an Order setting up a joint board for the Lake District National Park. The Order provides for the constitution of a board of 18 members. The counties of Cumberland, Lancashire and Westmorland are to have four members each, and the remaining six members are nominated by the Minister. The Order provides that the board may not spend more than £7,500 in any one financial year except with the agreement of the constituent councils or, in the event of their disagreeing, of the Minister.

Productivity in Galvanising

The report of the Anglo-American Council on Productivity Specialist Team on American general galvanising practice, which has just been published, will be of value primarily to galvanisers of miscellaneous general work and hollow-ware, but it also contains much information of interest to other galvanisers and to manufacturers of work to be galvanised. It is based on observations made during a tour sponsored by A.A.C.P. About 20 American galvanising shops were visited. The team found that the technical processes in many of the works seen were simpler and less efficient than modern British practice, but this was considered by the Americans to be of secondary importance compared with means to secure the maximum output. Copies of the Report are obtainable from the A.A.C.P., 21, Tothill-street, S.W.1, price 3s. 3d., post free.

RATES OF WAGES IN THE BUILDING TRADE [AS FROM MARCH 5, 1951]

(Every endeavour is made to ensure accuracy, but we cannot be responsible for errors)

KEY TO SCHEDULE OF GRADE RATES.

Grade Classification,	A	A1	A2	A3
Craftsmen	3/1½	3/1	3/0½	3/-
Labourers	2/8	2/7½	2/7	2/6½

Town.	Grade.
Aberavon	A
Aberdare	A
Abergavenny	A
Abingdon	A2
Accrington	A
Addlestone	A
Aldeburgh	A3
Aldershot District	A2
Alfreton U.D.	A
Alnwick	A1
Altrincham	A
Amble	A1
Amersham	A1
Ammanford	A
Andover	A2
Ardingly	A2
Arundel	A2
Ascot	A2
Ashby-de-la-Zouch U.D.	A
Ashby Woulds U.D.	A
Ashford (Kent)	A2
Ashford (Middlesex)	A
Ashington	A
Ashtead	A
Ashton-under-Lyne	A
Aspatria and Brayton	A2
Atherstone (parts of)	A1
Aylesbury	A2
Aylesby (Yorks)	A
Aylesham	A3
Bagshot	A2
Bakewell U.D.	A2
Banbury	A2
Barnard Castle U.D.	A
Barnoldswick U.D.	A1
Barnsley	A
Barrow-in-Furness	A
Barrow-upon-Soar R.D. (exc. Thrussington A2)	A
Barry	A
Basford R.D. (exc. Willough-by-on-the-Wolds A2)	A
Basingstoke	A2
Bath	A
Batley	A
Baxterley	A1
Beaconsfield & District	A1
Beamish	A
Bearl	A
Bearpark	A
Beccles	A2
Bedale R.D.	A
Bedford	A
Bedlington	A
Bedwas	A
Beeston & Stapleford U.D.	A
Belper U.D.	A
Belton	A
Berkhamsted	A
Berrington	A1
Berwick District	A
Beverley	A
Bexhill-on-Sea	A2
Biggleswade	A2
Billericay	A
Billing	A
Billingham U.D.	A
Bilsthorpe	A
Birchington	A2
Birkenhead	*
Birmingham C.B.	†A
Bishop Auckland	A
Bishop's Stortford	A
Bispham	A
Blackburn	A
Blackpool	A
Blackwell R.D.	A
Blaydon U. D.	A
Blidworth	A
Blyth	A
Bognor Regis	A2
Boldon U.D.	A
Bolsover U.D.	A
Bolton	A
Bourne End	A1
Bournemouth District	A1
Bracknell	A2
Bradford	A
Bradford-on-Avon	A2
Braintree	A2
Breconshire, County of	‡A2
Brent Knoll	A2
Brentwood	A
Bridlington	A
Brierfield	A
Brighouse	A
Brighton	A1
Bristol	A
Broadstairs	A2
Bromsgrove U.D.	A
Brough	A
Broughton (Cheshire)	A
Buckley	A
Bungay	A3
Burnham-on-Crouch	A3
Burnley	A
Burton-on-Trent C.B.	A
Bury	A
Bury St. Edmunds	A3
Buxton	A1
Byfleet	A1
Calder Valley	A
Cambridge	A
Cannock U.D.	A
Canterbury	A2
Cardiff	A
Cardiganshire, County of	‡A2
Carlisle	A
Carmarthenshire, Cnty.of	‡A2
Carnarvonshire, Cnty of	‡A3
Carnforth	A
Castleford	A
Caterham	A1
Chapel-en-le-Frith	A1
Charmy Down	A
Chatham & District	A1
Cheadle (Staffs) R.D.	A
Chelmsford	A
Cheltenham	A1
Chepstow	A1
Chertsey	A
Chester	A
Chesterfield M.B.	A
Chesterfield R.D.	A
Chester-le-Street U.D.	A
Chichester	A2
Chippenham (inc. Chippen-ham Within and Harden-huish)	A2
Chorley	A
Clacton	A1
Cleethorpes	A
Clevedon	A1
Cleveleys	A
Clitheroe	A
Coalville U.D.	A
Cobham (Surrey)	A
Colchester	A
Colne	A
Colwyn Bay	A1
Congleton	A1
Consett	A
Conway	A1
Cornwall, County of	‡A2
Coventry C.B.	A
Cranbrook	A2
Cranleigh	A2
Crawley (Sussex)	A2
Crewe	A
Cromer	A1
Crowborough	A2
Cuckfield	A2
Dalton-in-Furness	A
Darlington District	A
Darwen	A
Deal	A2
Denbigh Town	A2
Derby C.B.	A
Devizes	A2
Devon, County of	‡A2
Dewsbury	A
Didcot	A2
Diss	A3
Doncaster C.B.	A
Dorking	A1
Dorset, County of (except-ing Poole and Wimborne A1)	A2
Dover	A2
Dovercourt	A1
Driffield U.D.	A1
Droitwich M.B.	A1
Dudley M.B.	A
Dunstable	A
Durham City	A
Eastbourne	A1
E. Glam. & Mon. Val.	A
East Grinstead District	A2
Eastwood (Notts.) U.D.	A
Ebbw Vale & District	A
Edenbridge	A2
Ely	A3
Epping	A
Exeter	A
Fakenham	A3
Falmouth	A2
Fareham	A
Faversham	A2
Felixstowe	A1
Filey U.D.	A1
Fleetwood	A
Flint	A
Folkestone	A2
Frinton	A1
Frome	A1
Gainsborough R.D. (Mid. pt.)	A2
Gateshead	A
Gillingham (Kent)	A1
Glossop	A
Gloucester	A1
Gloucestershire, Cnty. of	‡A2
Godalming	A2
Goole M.B.	A
Gosport	A
Grantham M.B.	A1
Gravesend	A
Great Yarmouth	A
Grimsby C.B. & R.D. (part)	A
Grimsby R.D. (remainder)	A2
Guildford District	A2
Guilsborough	A1
Guiseley	A
Halesowen M.B.	A
Halifax	A
Halstead	A2
Haresfield	A1
Harlow	A
Harpenden	A
Harrogate	A
Hartlepool	A
Harwich	A1
Haslemere	A2
Hastings	A2
Hatfield (Herts.)	A
Haywards Heath	A2
Hemel Hempstead	A
Henley-on-Thames	A2
Hereford	A2
Herefordshire, Cnty. of	‡A2
Herne Bay	A2
Hertford	A
Hexham U.D.	A
Heysham	A
High Wycombe	A1
Highworth	A2
Hinckley U.D.	A
Hitchin	A
Hoddesdon	A
Horley	A2
Horsham	A2
Horwich	A
Huddersfield	A
Hull	A
Hunstanton	A2
Huntingdon (Staffs)	A
Ilkley	A
Ingatestone	A1
Ipswich	A
Isle of Sheppey	A2
Isle of Thanet	A2
Isle of Wight	A2
Jarrow M.B.	A
Keighley	A
Kendal	A
Kenilworth U.D.	A
Kettering M.B.	A
Keynsham	A
Kidderminster M.B.	A
King's Lynn	A2
Kingskerswell	A1
Kingsteignton	A1
Kirkham	A
Knaresborough U.D.	A
Knowle	A1
Lancaster	A
Leamington M.B.	A
Leatherhead	A
Leeds	A
Leicester C.B.	A
Leighton Buzzard	A2
Letchworth	A1
Lewes	A2
Lichfield M.B.	A1
Lincoln C.B.	A
Littlehampton	A2
Liverpool	*
Llandudno	A1
Llanelly	A
London	*
Long Eaton	A
Loughborough M.B.	A
Louth M.B.	A2
Lowestoft	A
Loxton	A2
Luton	A
Lyneham (Devon)	A1
Macclesfield	A
Maidenhead	A1
Maidstone	A1
Maltby	A
Maldon (Essex)	A1
Malvern U.D.	A2
Manchester	A
Manningtree	A1
Mansfield M.B.	A
March	A2
Margate	A2
Market Harborough	A1
Maryport	A
Matlock U.D.	A1
Melksham	A2
Melton Constable	A3
Melton Mowbray U.D.	A1
Merthyr	A
Middlesbrough	A
Middleton	A
Middlewich	A
Milford Haven	A2
Morecambe	A
Morley	A
Mundesley	A2
Nantwich	A
Nelson	A
Newark-on-Trent R.D.	A1
Newbury	A2
Newcastle-on-Tyne	A
Newcastle-under-Lyme	A
New Forest District	A1
Newmarket	A1
Newport, Mon.	A
Newport Pagnell	A2
Newton Abbot	A1
Northallerton Dist.	A
Northampton C.B.	A
North Shields	A
Norton Radstock	A1
Norwich	A
Nottingham C.B.	A
Nuneaton M.B.	A
Oakham U.D.	A2
Oldham	A
Ongar	A
Ormskirk	A
Ossett and Horbury	A
Oxford	A
Oxted	A1
Paignton	A1
Peterborough	A
" Soke	A1
Pickering	A3
Plymouth	A
Pontefract	A
Pontypridd District	A
Portishead	A
Portland Stoneyards	A
Portsmouth	A
Port Talbot	A
Preston	A
Pudsey	A
Pulborough	A2
Radnorshire, County of	‡A2
Ramsgate	A2
Rayleigh	A
Reading	A
Redcar B.	A
Redditch U.D.	A
Redhill and Reigate	A
Ripon	A3
Rochdale	A
Rochester	A1
Rotherham	A
Rugby M.B.	A
Saffron Walden	A2
St. Albans	A
St. Helens	A
St. Neots	A2
Salisbury City	A2
Salisbury Plain	A2
Sawbridgeworth	A
Saxmundham	A3
Scarborough	A
Scunthorpe	A
Selby	A
Sevenoaks	A1
Sheerness	A2
Sheffield	A
Shipley	A
Shoeburyness	A
Shoreham	A1
Shrewsbury M.B.	A
Sittingbourne	A2
Skegness U.D.	A1
Skipton U.D.	A1
Sleaford U.D.	A2
Slough	A1
Smethwick C.B.	†A
Snettisham	A2
Somerset, County of	‡A2
Southampton	A
Southend-on-Sea Dist.	A
Southport	A
South Shields C.B.	A
Spalding U.D.	A2
Stafford M.B.	A
Staines	A
Stamford M.B.	A1
Stantonwick	A
Stevenage	A
Stockport	A
Stockton R.D.	A
Stockton-on-Tees	A
Stoke-on-Trent C.B.	A
Stoke Orchard	A1
Stourbridge M.B.	A
Stourport U.D.	A
Stowmarket	A3
Stratford-on-Avon M.B.	A1
Sunderland District	A
Sunningdale	A1
Sutton Coldfield M.B.	A
Swaffham	A3
Swanage	A2
Swansea	A
Swindon	A1
Swinton U.D.	A
Tamworth M.B.	A
Tenterden	A2
Tewkesbury	A1
Thames Haven	A
Thetford	A3
Thorpe Bay	A
Thurrock U.D.C. Area	A
" North of, to Billericay	A
Tilbury	A
Todmorden	A
Tonbridge	A1
Torquay	A1
Totnes	A1
Trowbridge	A2
Tunbridge Wells	A1
Tynemouth C.B.	A
Uppingham (Salop)	A1
Uttoxeter U.D.	A2
Wakefield	A
Wallsend B.	A
Walsall C.B.	A
Walsden	A
Walton-on-Naze	A1
Ware	A
Warminster	A2
Warrington	A
Warwick M.B.	A
Wellington R.D.	A1
Wells (Norfolk)	A3
Welwyn	A
Welwyn Gar. City	A
West Bromwich C.B.	A
Westbury	A2
Westcliff-on-Sea	A
Westerham	A1
Weston-super-Mare	A1
Weybridge	A
Weymouth	A1
Whitby U.D.	A1
Whitstable and District	A2
Wickford	A
Widnes	A
Wigan	A
Wigton	A3
Willington	A
Wilmslow	A
Wilts. County of	‡A2
Winchester	A1
Windermere	A3
Windsor and Eton	A1
Wisbech	A2
Witham	A1
Woking (District)	A1
Wokingham	A2
Wolverhampton C.B.	A
Woodbridge	A3
Worcester C.B.	A
Workington	A
Worksop M.B.	A
Worthing	A2
Wrexham (incl. Cefn)	A
Wroughton	A2
Wylam	A
Wymondham	A3
York	A

* For Birkenhead, Liverpool, and London the rates are :—Craftsmen, 3s. 3d.; Labourers, 2s. 9½d. In the case of London the rate beyond the 12-mile radius is :—Craftsmen, 3s. 2½d. Labourers, 2s. 9d.

† Plus 2d. per working day.

‡ This is the County rate and applies except where higher grades are stated.

NOTE.—Carpenters, Joiners and Plumbers in all towns and districts receive 2d. per day Tool Allowances.

WOMEN'S RATES.—In all districts throughout the country the rate of wages for women engaged in craft processes is 2s. 1d. per hour. Women introduced to carry out work other than craft processes, 1s. 9d. per hour.

For Building Trade Wages in Scotland see page 336.

The Scottish Builder

SCOTLAND'S NEW TOWNS

East Kilbride and Glenrothes Reports

BAD weather held up the building programme last year in both of Scotland's New Towns according to the reports of the East Kilbride and Glenrothes Development Corporations which were published on August 31 (Stationery Office, 1s. 9d.). The reports cover the year from April 1, 1950, to March 31, 1951.

The East Kilbride report expresses satisfaction at the decision that East Kilbride is to have a significant share in the rearmament programme and is to be the site of another important industry. "This means that there will shortly be employment there for about 6,000 people."

The Government policy in East Kilbride, says the report, is to aim at a population of not less than 40,000. "The Corporation to achieve a thoroughly compact design are building in the proportion of approximately one-half terraced houses, one-third flats and one-sixth semi- or fully-detached houses."

By the end of March of this year, 248 houses had been completed in East Kilbride. In addition drainage and roads had been put in hand for 585 houses and flats. Contracts had been placed for 236 houses and flats, and tenders were due for a further 245.

Shops, banks and lock-up garages at Whitemoss were under construction and would soon be completed. Building work had begun on the first school, for which the Corporation's technical staff were acting as architects, at the end of March. This school would accommodate 600-800 pupils and would cost approximately £152,000 to build.

The first main building of the Mechanical Engineering Research Laboratory was nearing completion with further buildings at advanced stages of construction. This project, which would cost £1½ million, would employ about 700 workers.

The first two church sites had been agreed with the appropriate authorities, and a hall-church for the Church of Scotland was being designed.

Demand for Cinema

The report comments that an urgent requirement is a modern cinema and several circuits had indicated that they were prepared to build right away if a licence could be obtained. "The Corporation realise that there are more urgent national commitments . . . but they have stressed that there will be a substantial population and a vigorous public demand by the time that such a building would be completed."

The provision of drainage and other basic services, the report says, is carried out by Lanarkshire County Council under financial arrangements with the Corporation.

Twenty-three miles of sewers had been laid by the end of March. The total value of drainage contracts placed was £335,300. During the year progress was also made with road construction, the total value of contracts placed for traffic routes being then £187,280.

The audited accounts included in the report show that capital expenditure for the year less depreciation was £424,004. The cumulative capital expenditure at March 31, was £974,210.

BUILDING TRADE WAGES IN SCOTLAND

Following are grade rates authorised by the Scottish N.J.C. from March 5, 1951. Every effort is made to ensure accuracy, but we cannot be responsible for errors that may occur.

Grade Classification A Craftsmen ..... 3/1½ Labourers 2/8

Aberdeen ..... A	Dumfriesshire ..... A	Inverness ..... A	Peterhead ..... A
Ayrshire ..... A	Dundee ..... A	Inverurie ..... A	Renfrewshire ..... A
Banff ..... A	Dunoon ..... A	Kincardineshire ..... A	Rothesay ..... A
Berwickshire ..... A	East Fife ..... A	Kinross-shire ..... A	Roxburghshire ..... A
Bridge of Allan ..... A	East Lothian ..... A	Lanarkshire ..... A	St. Andrews ..... A
Broughty Ferry ..... A	Edinburgh ..... A	Midlothian ..... A	Selkirkshire ..... A
Clackmannanshire ..... A	Fifeshire ..... A	Monifieth ..... A	Stewartry ..... A
Doune ..... A	Forfarshire ..... A	Moray and Nairn ..... A	Stirlingshire ..... A
Dunblane ..... A	Glasgow ..... A	Newport ..... A	Stornoway ..... A
Dunbartonshire ..... A	Greenock ..... A	Peeblesshire ..... A	Tayport ..... A
Dumfries ..... A	Hamilton ..... A	Perth ..... A	West Lothian ..... A
		Perthshire ..... A	

The Scottish N.J.C. award on which this is based provides for variation to current rates of Female Labour, Apprentices and Trainees' wages.

The information given in this table is copyright.

Effects of Bad Weather

Generally, the report comments that the bad weather experienced during the year made it very clear that outdoor work must be largely undertaken during the spring and summer months. The Corporation refer to "stringent central control over housing expenditure" and express their disappointment "that they are not permitted even a latitude which would allow them to provide the most attractive houses."

When schedules for 209 traditional houses were issued the Corporation invited offers on both a "several works" and a "separate trades" basis. It was found that the lowest offer for "several works" was £57 per house more costly than the aggregate of the separate trades, and accordingly the tenders were approved only on the latter basis.

Glenrothes Report

The Glenrothes Development Corporation report says that owing to the reduced manpower estimates prepared for the coal industry in Scotland, the Corporation had during the year to review their proposals for the development of the New Town. They did this without, however, departing from the main purpose of achieving a balanced community based on a proportion of one miner in 8 or 9 of the population.

"The Corporation have been advised that the Secretary of State estimates that the population of Glenrothes is not likely to exceed 18,000 within the next 20 to 25 years but that no figure has been placed on the ultimate population of the New Town. The Corporation have been instructed to make the design of the portion of the New Town lying south of the River Leven in such a way that it would be capable of development to accommodate a population of 23,000."

During the year the Glenrothes building programme was "considerably hampered by the severe weather and to some extent by lack of labour." By the end of March site servicing had either been completed or begun for 622 houses. Of these 311 were under construction.

The report contains details of amendments that have been made to the outline plan for the New Town and also of progress that has been made with development proposals. Construction of the first shopping centre was started during the year. It will provide seven shops, four four-apartment flats and six terraced houses of three apartments. Plans were also completed for a larger second shopping centre which will include a dental surgery, a temporary library, a temporary health clinic and a community hall. Agreement was reached with the Church of Scotland on the first site for a hall-church in the Woodside precinct.

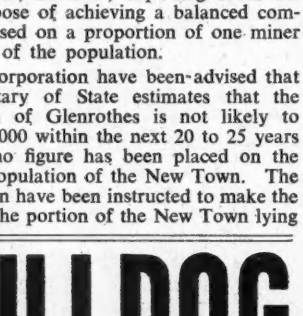
The audited accounts included in the report show that the net capital expenditure for the year was £144,728.

Labour Difficulties

On the subject of labour the report says: "It has become increasingly evident within the last year that the supply of labour in Fife is insufficient to meet the demands for all the building projects now on hand. In order to maintain progress up to the programme of work adopted by the Corporation a labour force of at least 520 is required at the present time. Actual availability of labour represents about 50 to 60 per cent. of this figure. The Corporation fully realise the difficulty this deficiency of labour presents . . . and have given considerable thought to suggestions such as the engagement of contractors of national standing who would be expected to import labour for the execution of their contracts, and the organisation of labour camps."

The land owned by the Corporation now extends to approximately 1,398 acres, three farms and five smaller areas amounting in all to 1,235.6 acres having been acquired in the year under review.

BULLDOG



FLOOR & CEILING CLIPS

Standard and Acoustic

THE ADAMITE COMPANY LTD

MANFIELD HOUSE, STRAND, W.C.2

A New Architecture

THE BELIEF that we were on the threshold of a great new architecture was expressed by Mr. Basil Spence, O.B.E., F.R.I.B.A., when he opened in Edinburgh the Four Walls Exhibition—an introduction to contemporary architecture arranged by the Students Architect Group, Edinburgh College of Art.

We in this country had experienced a period of great architecture. That period

was several hundred years ago and it was then that contemporary architecture, as it was called, was a living thing. He liked to think that now, as little shoots sprang up out of our arid ground, we were seeing examples of real architecture coming again. When he looked at the photographs in the exhibition he thought that at last we were back on to a main spine of developemnt.

No age, said Mr. Spence, had produced such respect for the past as the new age of young architects. They loved the past. They loved old architecture in which was enshrined the tremendous standard they had got to strive for.

He was convinced that we were on the threshold of great things and that a great new architecture would arise. "Go to any part of this country or any part of the world," he said, "and you will see there is a movement towards honesty of thought and honesty of expression. You can get Scottish modern architecture. It comes out, naturally, through the hands of Scotsmen."

TECHNICALIA

THE DIRECTORY OF QUARRIES, CLAYWORKS, SAND AND GRAVEL PITS. (London: The Quarries Managers' Journal, Ltd.) Price 15s.

THE alphabetical section of this publication has now been divided into three parts, the first being the list of all quarries; the second part contains clayworks; and the last of these sections is devoted to sand and gravel pits. Addresses, telephone numbers, and telegraphic addresses are given with a brief description of the main products of the firm. A new geographical section gives the names of the county dealt with on the page.

CONCRETE BLOCK CONSTRUCTION FOR HOME AND FARM. By J. R. Dalzell and G. Townsend. (London: The Technical Press, Ltd.) Price 22s.

THE AUTHORS of this American book are convinced that almost anyone can build a structure from concrete blocks. They are equally certain that many unsatisfactory buildings are being erected due to fundamental errors made by even experienced builders. To remedy this situation, the authors describe those construction principles, proved by experience, that must be observed if the building is fully to serve its purpose. Beginning with the planning of the building, the authors take the reader through every step of the construction.

PAINT FILM DEFECTS—THEIR CAUSES AND CURE. By Manfred Hess. (London: Chapman and Hall.) Price 50s.

THIS is an English version of a standard German work written by the author shortly before the war. It has been considerably enlarged and revised owing to the many important developments which have taken place in the raw material side of the paint and varnish industry. The work is designed as a reference book, and the comprehensive index and numerous cross references should enable the reader to track down the cause of nearly every form of paint defect with comparative ease.

Planning Circular

The Ministry of Local Government and Planning have issued circular No. 55/51, "Keeping of pigs, hens and rabbits on local authorities' housing estates."

TRADE NEWS

The Late Mr. Sidney Moon

The death occurred on August 27 of Mr. Sidney Moon. He was a representative of Wingard (M.A.), Ltd., of Chichester, joining the company in 1929 at the time of its formation.

Supplier's Catalogue

Nicholls and Clarke, Ltd., Niclar House, 3-8, High-street, Shoreditch, have recently published a very full and comprehensive catalogue which covers the whole range of their activities in the building trade. Prices of all the articles are listed and adequate descriptions and illustrations given. It should prove to be a very useful publication.

New Electric Hammer Drill

Victor Products (Wallsend), Ltd., Wallsend-on-Tyne, manufacturers of the 220/240 volt Victor electric hammer drill, have recently introduced a second machine working on 100/110 volts for which there appeared to be a considerable demand. They have also established service agents with works-trained personnel in London, Birmingham, Manchester, Glasgow, Sheffield and Leeds, as the beginning of a country-wide chain of service depots. A further development which the company announce is a completely redesigned range of tools, claimed to be better and cheaper than the present range.

"Handle With Care"

A year ago the Benjamin Electric Ltd. produced some rather startling "Handle With Care" labels for packages and crates in an effort to reduce breakages in transit. These

have proved so successful that the company have now designed three new labels (one of which we reproduce) which rely on humour to put their message across to those concerned with the movement of goods.

DO YOU REQUIRE SPECIALISED JOINERY?
TRY
E. R. BLACKBOROW LTD.
Telephone:
EAST 2495 and 1661
ST. ANNES ROW
LONDON · E.14

Electric Tools at the Festival

Several Wolf electric tools were selected by the Council of Industrial Design as representative of the British portable electric tools industry for exhibition at the Festival of Britain.

Change of Address

The Northern Aluminium Co., Ltd., announce that from October 1 next the address of their head office and London area sales office will be Bush House, Aldwych, London, W.C.2. Tel: Temple Bar 8430.

Cedarwood Shingles

W. H. Colt (London), Ltd., Surbiton, Surrey, inform us that their Canadian red cedarwood shingles have now been freed from all license, and may be purchased without restriction or formalities. Supplies are apparently available for immediate delivery from stock, and the company have prepared to undertake contracts anywhere in Great Britain.

Electrostatic Air Filter

Sturtevant Engineering Co., Ltd., have recently introduced the second edition of a booklet on the Precipitron Electrostatic Air Filter. This publication gives information on the damage caused by air pollution and methods of testing filter efficiency. General details of Precipitron applications are provided together with a description on how the filter operates.

Tubular Heaters

The General Electric Co., Ltd., introduced on September 1 a new range of tubular heaters designed to make the stocking of tubular heaters as flexible as that of conduit and conduit fittings. A complete range of heaters is available from a stock of 23 individual items instead of 64 as hitherto and, whereas 280 items were previously required to enable a wholesaler to hold stocks in three voltages, only 35 are required in future.

Plastic Material for Precast Work

The Cape Asbestos Co., Ltd., have produced a brochure on the use of Pluto board for shuttering. Pluto board is an inert plastic material bonded under heat and pressure with a thermo-setting synthetic resin. It is suitable for all forms of shuttering and mould work, and can be nailed and sawn with ordinary woodworking tools. The illustrated brochure contains information on its application and technical facts, together with details of specifications.

Fireplaces of Contemporary Design

Some charming fireplaces of contemporary design are illustrated in a special Festival Year catalogue published by Broad and Co., Ltd., 4, South Wharf, Paddington, W.2. The fireplaces illustrated include the "Ardern," selected by the Council of Industrial Design for the Homes and Gardens section of the South Bank Exhibition; a fireplace designed for use in L.C.C. Housing at the Exhibition of Live Architecture at Lansbury, Poplar; and numerous other designs suitable for large or small rooms and different decorative schemes. The clean lines of the fireplaces illustrated make them particularly pleasing to the eye, but in a time of chronic fuel shortage it seems a pity that no information should have been supplied in regard to the thermal efficiency of the various grates.

FUTURE CONSTRUCTION

PUBLIC APPOINTMENTS

Full details of Public Appointments open will be found in the Advertisement pages of this and previous issues.

CONTRACTS OPEN

For some contracts still open but not included in this list see previous issues. Those with an asterisk are advertised in this number. The dates at the heads of paragraphs are those for the submission of tenders; a dagger (†) denotes closing date for applications; the name and address at the end refer to the person from whom particulars may be obtained.

BUILDING

SEPTEMBER 10.

***†Plymouth T.C.**—Erection of proposed prim. sch. at Lipson. Louis de Soissons, A.R.A. and Partners, 5, Portland-sq., Plymouth.

SEPTEMBER 11.

***†Redhill Group Hospital Management Com.**—Work in connection with maintenance of hospital buildings at various sites. W. C. F. Hopwood, Redhill County Hospital, Earlswood Common, Redhill, Surrey.

SEPTEMBER 14.

***†Southampton C.B.**—Erection of new offices at Mount Pleasant inf. sch. Boro' A. Dep. £1. Tenders by October 10.

***Warrington.**—Proposed R.C. sec. sch. at Warrington, Lancs. Massey and Greaves, AA.R.I.B.A., 17, Museum-st., Warrington. Dep. £5 5s.

SEPTEMBER 15.

***Durham C.C.**—Erection of fire brigade H.Q. at Framwellgate Moor. County A., Court-la.

Erpingham R.D.C.—12 dwellings at various sites. G. L. Evatt, Council Offices, St. Peter's-rd., Sheringham. Dep. £2 2s.

***†Essex C.C.**—Erection of classroom, staff lavatory and scullery at Dovercourt, Second-ave. prim. sch. H. Conolly, F.R.I.B.A.

***†Essex C.C.**—Adaptations at "Farleigh," New London-rd., to form children's home. H. Conolly, F.R.I.B.A.

***†Malden and Coombe B.C.**—Reinstatement of war damage to corporation properties. B.E.

SEPTEMBER 17.

Braughing R.D.C.—Six houses at Green Tye, Much Hadham. R. H. Sell, 2, Hockerill-st.

***†Lincoln (Kesteven) C.C.**—18 firemen's houses, Harlaxton-rd. J. W. H. Barnes (F.), County Architect, Sleaford. Tenders by October 12.

***Middlesex C.C.**—Alteration and extension to Vehicle Repair Depot, Barretts Green-rd., Harlesden, N.W.10. Dep. £2 2s.

***†Middlesex C.C.**—Erection of an ambulance station at Hillingdon, Middlesex. Clerk, Guildhall, Westminster. Dep. £2 2s. Tenders by October 8.

Norwich T.C.—186 dwellings at North Park-ave. estate. City A., City Hall, Norwich. Dep. £1.

SEPTEMBER 18.

Aylesbury R.D.C.—16 houses at various sites. Raymond C. White, F.R.I.B.A., 4, Temple-sq., Aylesbury.

Doncaster C.B.—Seven shops with living accommodation at Beckett-rd. Estates Surveyor, 15, South Parade, Doncaster. Dep. £3 3s.

South Cambridgeshire.—12 houses at Sawston. Architect, County Hall, Hilson-st., Cambridge. Dep. £2 2s.

SEPTEMBER 19.

***†Norfolk Ed. Com.**—Alterations and additions to the stables, etc., to form craft rooms at Holt Hall. F. Lincoln Ralphs, Chief Education Officer, Staceyrd., Norwich.

SEPTEMBER 20.

***Bootle C.B.**—Hostel for aged persons, rear 47, Balliol-rd. B.S. Dep. £2 2s.

Huntingdon R.C.—Two blocks of Duplex houses, two blocks of three and one pair of non-parlour houses at Huntingdon. Lea, Milner and Wardley, 4, Market Hill, Huntingdon. Dep. £2 2s.

SEPTEMBER 21.

***†Sevenoaks R.D.C.**—Two blocks of 4 flats, Granville-rd., Westerham. E. & S. Dep. £2 2s.

SEPTEMBER 22.

***March U.D.C.**—16 houses at Badgeney-rd. housing estate. W. S. Rickett, M.I.Mun.E. Dep. £2 2s.

SEPTEMBER 24.

Castletown, I.O.M.—Eight houses at School Hill site. W. T. Quayle, 29, Athol-st., Douglas. Dep. £2 2s.

***Grantham Boro.**—16 bungalows, Harrowby-la. B.E. & S. Dep. £2 2s.

Sutton-in-Ashfield U.D.C.—24 flats at Mansfield-rd. Warner and Dean, Mansfield-rd. Dep. £2 2s.

***†West Sussex C.C.**—Erection of additional cowhouses and dairies at Croucher's estate. T. C. Howard.

SEPTEMBER 26.

***Malvern U.D.C.**—10 bungalows at West Malvern-rd. Surveyor & Water Engineer, The Council House, Malvern. Dep. £2 2s.

SEPTEMBER 27.

***Berkshire C.C.**—Two cottages with incidental works at Institute of Agriculture, Hurley. County A., Wilton-hse., Parkside-rd., Reading. Dep. £2 2s.

***Ripley U.D.C.**—Erection of public convenience at Heage and Ambergate. H. Hillier, M.I.Mun.E. Dep. £2 2s.

SEPTEMBER 28.

Chippenham B.C.—New cattle market at Cocklebury. B.E., 10, Market-pl. Dep. £3 3s.

***Durham C.C.**—Alterations and additions to Stanley fire station. County A., Court-la., Durham.

Glossop B.C.—Erection of 52 houses. John E. Beardshaw and Partner, 186, Oxford-rd., Manchester, 13, or B.S., Municipal-bldgs. Dep. £5 5s.

***†Portsmouth T.C.**—63 flats at King's-rd. City A., Municipal Offices, 1, Western-parade. Dep. £3 3s.

***†Portsmouth T.C.**—42 flats at St. George's-sq. A. E. Tuttle & Son, 10, King's-ter., Southsea. Dep. £3 3s.

Selby U.D.C.—24 houses at Stainer Wood estate. Blenkinsopp & Thompson, architects, Clifton-chbrs., Park-st., Selby. Dep. £2 2s.

***†Staffordshire C.C.**—Application for inclusion in contractors' approved list for work in the county. Architect, Staffordshire Ed. Com., Green Hall, Lichfield-rd., Stafford.

***†Welsh Regional Hospital Board.**—Applications are invited from those who wish to tender from time to time for hospital building projects. Secretary of the Board, Temple of Peace and Health, Cathays Park, Cardiff.

SEPTEMBER 29.

***Merioneth E.C.**—Erection of a three-class primary school at Llanuwchllyn, near Bala. County A., County Offices, Dolgelly. Dep. £3 3s.

Millom R.D.C.—66 houses at Settle-st. and Salthouse-rd. J. Hankey, Market-sq., Millom, Cumberland. Dep. £2 2s.

***†Northamptonshire C.C.**—Works in connection with projects under the Ed. Com. building programme, 1951-52. County A.

OCTOBER 1.

***Ashby-de-la-Zouch R.D.C.**—Roadworks, sewers, and water mains and erection of 30 houses at Coronation site. V. G. Bott, M.Inst.R.A., Council Offices, South-st., Ashby-de-la-Zouch. Dep. £2 2s. (roadworks), £4 4s. (roadworks and houses).

OCTOBER 3.

***Guildford R.D.C.**—16 dwellings at Sandmore. J. W. Wilton, F.R.I.C.S. Dep. £4 4s.

***Guildford R.D.C.**—18 dwellings at Longacre. J. W. Wilton, F.R.I.C.S. Dep. £4 4s.

***Guildford R.D.C.**—38 dwellings, Longacre, Ash. J. W. Wilton, F.R.I.C.S. Dep. £8 8s.

OCTOBER 5.

***Oldham C.B.**—Separate works at proposed jun. sch. at Fitton Hill. C. T. Taylor, Roberts & Bowman, 10, Clegg-st., Oldham. Dep. £2 2s.

***Salford T.C.**—66 flats at Islington-st. City Engineer's Office. Dep. £5 5s.

RUBBER FLOORING

RUBBER STAIR COVERINGS AND LATEX-CEMENT FLOORS

By

RUBBALUX COMPANY

LAYING SERVICE THROUGHOUT GREAT BRITAIN

Contractors to:
Air Ministry • British Railways
British European Airways
County and Local Councils
Regional Hospital Boards

8 HOLBEIN PLACE, LONDON, S.W.1

Telephone: SLOANE 4065/4021

OUR NEW SUPER-HARD FLOORING TILES NOW SPECIFIED BY LEADING ARCHITECTS

Wisbech and District Water Board.—Water tower near Newton. Rofe and Raffety, 3, Victoria-st., London, S.W.1. Dep. £2 2s.

OCTOBER 8.

***March.**—Erection of home for old people. County A. Dep. £2 2s.

OCTOBER 10.

***Southampton C.B.**—Additional hutted accommodation at Western County sec. and prim. sch. Boro' A. Dep. £1.

OCTOBER 11.

Failsworth U.D.C.—28 houses at Greaves-ave. extension. E. & S. Dep. £2 2s.

OCTOBER 13.

Sligo T.C.—28 maisonettes and 59 houses with incidental works. McDonnell and Dixon, 20, Ely-pl., Dublin. Dep. £10 10s.

OCTOBER 29.

***Preston C.B.**—144 flats at Larches estate. B.S. Dep. £2 2s.

NOVEMBER 5.

***Hastings C.B.**—Erection of first phase of school buildings at Sedlescombe-rd. North. B.E. & S., 37, Wellington-sq., Hastings. Dep. £5 5s.

NOVEMBER 7.

***Southampton C.B.**—Erection of infants' sch. at Rossington-ave. Howard V. Lobb & Partners, 20, Gower-st., London, W.C.1. Dep. £2 2s.

NO DATE.

Alnwick U.D.C.—32 houses at Howing-la., East estate. G. Beatty, Council House, Wagonway-rd. Dep. £2 2s.

Guildford B.C.—Public convenience in Woodbridge-rd. B.E., Municipal Offices. Dep. £2 2s.

Malton U.D.C.—Eight flats at Westgate. Guy D. Channon. Dep. £1 1s.

PAINTING, ELECTRIC LIGHTING, MATERIALS, ETC.

SEPTEMBER 24.

***Dartford.**—Internal painting Southern Hospital for South-East Metropolitan Regional Hospital Board. E. J. M. Durrant, Sec., Bow Arrow Hospital, Dartford. Dep. £3 3s.

ROADS, SEWERAGE AND WATER WORKS

SEPTEMBER 17.

Portsmouth T.C.—Roads and sewers. City Engineer. Dep. £5 5s. (for each contract).

SEPTEMBER 22.

Cirencester U.D.C.—Bridge over railway at Beeches housing estate. L. G. Mouchel and Partners, Ltd., 36-38, Victoria-st., Westminster, S.W.1. Dep. £3 3s.

SEPTEMBER 27.

***Winchester R.D.C.**—Pumping station, for Totford water supply. R. W. Partington, Clerk, 45, Romsey-rd. Dep. £3 3s.

SEPTEMBER 28.

Hoole U.D.C.—Roads and sewers. N. H. Bowdler. Dep. £3 3s

Staffordshire C.C.—Construction of a r.c. raft over the brick arch of Sutton-rd. canal bridge, Tamworth. C., County Buildings, Stafford. Dep. £2.

SEPTEMBER 29.

Ruthin B.C.—Water mains in the borough. Sandford, Fawcett & Partners, 53, Victoria-st., Westminster, S.W.1. Dep. £5 5s.

OCTOBER 2.

Bracknell Development Corporation.—Extensions to sewage disposal works. Chief Engineer. Dep. £2 2s

GENERAL BUILDING WORK (LONDON)

Bexleyheath.—OLD PEOPLE'S HOME.—Kent C.C. to purchase a site at Woolwich-rd. upon which to erect an old people's home to accommodate between 45 and 55. Est. cost, £70,000.

Coulsdon.—HOUSES.—M.L.G. and P. has decided to confirm Coulsdon and Purley Council's application for the compulsory purchase of a four-acre site at Rickmanhill and Portnalls-rd., on the boundary of the Banstead urban district, for the erection of council houses.

Surbiton.—HOUSES.—A further 16 houses above the original allocation of 250 may be erected by Surbiton B.C. this year. Eight of the additional licences will be used to provide accommodation for civil servants working in Surbiton.

(PROVINCIAL)

Accrington.—R.C. Diocese of Salford propose new church at Queen's-rd. district.

Beaconsfield.—U.D.C. propose erection of 102 dwellings at Holtspur.

Bury.—E.C. propose new sec. tech sch. extensions to high sch. in 1962 programme, and seek approval to commence Brandlesholme C.P. and Seedfield sec. mod. schs.

Chadderton.—U.D.C. seek loan of £15,500 for erection of public wash house.

Cheadle.—R.D.C. propose 12 houses at Cross-la., Waterhouses.

Cobham.—Surrey C.C. approval recommended for preliminary layout plans covering 14 acres of Canada-rd., for housing development.

Denholme.—U.D.C. seek approval for alternative lay out for Denholme Clough site. Plans by S., W. H. Plummer.

Derbyshire.—M.L.G. & P. have granted conditional permission to the Ketton Portland Cement Co., Ltd., for the building of a cement factory and the working of limestone and clay at Dove Holes, near Buxton.

Durham.—City E., W. J. Greene, has prepared plans for 12 houses at Church-st.

Halifax.—B.E. to proceed with scheme for shops and offices at George-st.

Hebburn-on-Tyne.—U.D.C. approved plans by R. C. Bestow, S., for erection of 16 houses at Hartleyburn housing extension.

Hepton.—R.D.C. propose block of 16 houses at Boston Hill. Architect to Council, N. H. Singer.

Leigh.—T.C. approved erection of abattoir and lairages on either side of Westleigh-la., south of Dangerous Corner, for M.O.F.—T.C. seek loans of £9,274 for eight bungalows at Pennington-rd. site; £9,741 for eight houses at Brick House site; and £8,955 for five houses at Hand-la. site.

Macclesfield.—T.C. seek approval for 300 houses and sites for light and heavy industry at Hurdsfield.

Manchester.—T.A. propose new army centre at East Didsbury.

Middleton.—B.C. approved plans for 90 houses at Guilford-grove, Boarshaw, and 58 houses and 30 flats at Hollin estate. Plans by S., J. Pollard, L.R.I.B.A.—Hostel block and gymnasium at De la Salle Training College, Hopwood, for Bro. Augustine.—Shops at Fountain, for Ashton Smethurst, Ltd.

Morpeth.—R.D.C. to erect 20 houses and six aged people's dwellings at Hadstone estate. Plans by J. R. Miles, S., Dacre-st., Morpeth.

Newburn-on-Tyne.—Additions to 33 houses at Richmond-ter., Walbottle, for U.D.C. Plans by J. A. Weatherley, S.

Oldbury.—B.C. approved extensions at Crosswells-rd., for Parkes Classic Confectionery, Ltd.—40 bungalows with canteen, rest room, etc., at Causeway Green, Langley. Est. cost, £60,000.

Ormskirk.—T.C. recommend site at Town End for development by F. H. Burgess, Ltd.

Preston.—T.C. seek loan of £18,500 for attested cattle accommodation at market.

Rowley Regis.—T.C. seek loan of £101,500 for 76 houses at Cox's Farm estate.

Scarisbrick (Lancs).—Trustees of St. Elizabeth's R.C. Church propose erection of sch. Est. cost, £21,500.

Sheffield.—Extensions to Stephen Hill Methodist Church. Architects, J. Amory Teather & Hadfield, Sheffield.

Smethwick.—T.C. recommended to approve layout for 32 and 166 houses at Brandhall and Bleakhouse-rd. sites.

Stafford.—B.E. to prepare plans for block of flats at Rising Brook estate.—Birmingham & Midland Motor Omnibus Co., Ltd., propose new garages at Silkmore-la.

Stretford.—B.C. approved plans for:—Maternity wing at Memorial Hospital for Manchester Reg. Hospital Brd.—B.C. propose four blocks of four-storey and three blocks of three-storey flats at Stretford-rd. site (stage 1); 24 dwellings at Chester-rd., Yappe Laundry site; and 22 dwellings at Moss Park-rd. No. 2 site; and 24 dwellings at Ingleby site and 14 at Station-rd., Moss-rd. site.

Sunderland.—R.D.C. received sanction to build 14 houses at Castletown. Plans by C. Emmerson.

Walsall.—T.C. recommended to approve erection of additional home for aged at the "Shrubbery." Est. cost, £30,000.

Walton.—Surrey Planning Com. have approved plans for three shops with flats over at Longmore Farm housing estate.

Warrington.—B.C. propose erection of 10 police houses.—R.C. authorities propose sec. mod. sch. at junction of Kingsway South and Bridgewater-av.

Washington.—U.D.C. Surveyor, T. E. Crowe, to prepare revised draft plans for 50 houses at Blue House-la.

Wigan.—R.D.C. approved plans for extensions at Skull House-la., Appley Bridge, for Wm. Finch & Sons, Ltd.

Wigan.—T.C. received approval for expenditure of £30,000 for erection of hostel at Norley Hall estate, Pemberton.

Workington.—B.C. to consider erection of flats on site previously reserved for shops at Northside estate.

TENDERS

* Denotes *accepted.*
† Denotes *provisionally accepted.*
‡ Denotes *recommended for acceptance.*
§ Denotes *accepted subject to modification.*
¶ Denotes *accepted by H.M. Government Departments.*

Brackley.—22 houses for T.C.: *F. A. Hedges, Syresham, Brackley, £28,929.

Caernarvonshire.—Primary sch. at Llanllechid, for C.C.: *H. E. Williams, 42, Glanrafon, Bangor, £45,829.

Coventry.—Primary sch. at Deedmore-rd., for E.C.: *Gee, Walker & Slater, Ltd., London.—Houses for T.C.:—18 at Manor estate: *Higgs & Hill, Ltd., London, £22,234; 10 maisonettes and 10 shops at Monk's Park estate: *G. W. Deeley, Ltd., 27, Avon-st., Upper Stoke, £18,624.

Croydon.—Factory extension on behalf of Messrs. Troughton & Young, Ltd., at Beddington Farm-rd., South Croydon. Architects, E. Norman Bailey & Partners: *Wates, Ltd., 1258-1260, London-rd., Norbury, S.W.16, £14,217.

Cudworth.—Six houses and four bungalows, for U.D.C.: *J. Stothard & Sons, Cudworth, nr. Barnsley, £11,869.

Doncaster.—Erection of Nightingale, Warminster, prim. sch., for E.C.: *J. Dixon (Doncaster), Ltd., Greenfield-la., Doncaster, £48,544.

Guildford.—30 houses and eight blocks of Duplex houses, Bushey Hill, Merrow, for B.C. G. H. Causey, A.M.I.C.E., and quantities by F. W. Norris, A.R.I.C.S.: *W. H. Gaze & Son, High-st., Kingston-on-Thames, £103,371 (30 houses, 16 blocks of flats); *Higlett & Hammond, Ltd., Daptune House, Woodbridge-rd., Guildford, £24,800 (16 houses); *W. G. Hull & Son, Ltd., Pennings Estate Office, Aldershot-rd., Guildford, £31,000 (20 houses); and *Godalming Building Co., Laughton Trading Estate, Godalming, £27,642 (18 houses).

Keighley.—Alterations and additions at Holycroft sec. mod. sch., for E.C.: *H. V. Robinson, Ltd., Alice-st., Keighley.

Lleyn.—Houses at Tedweilog, for R.D.C.: *W. N. Davies, Rhiw, £14,745.

¶London (Admiralty).—Particulars of contracts placed by Civil Engineer-in-Chief's Dept., Admiralty:—

Culham: Quarters, Hinkins & Frewin, Ltd., Cranham-st., Oxford; Resurfacing to roads, Amey's Asphalte Co., Ltd., Sutton Courtenay, Abingdon, Berks.

¶London (Air Ministry).—New contracts to value of £500 or over for week ended September 4:—
Building work: F. Parham, Ltd., Gillingham, Kent; Sir A. McAlpine & Son, Ltd., Wolverhampton; Markwell, Holmes & Hayter, Ltd., Hull; Kerridge (Cambridge), Ltd., Cambridge; E. S. Moss, Ltd., Hendon.
Resurfacing work: Wm. Briggs & Sons, Ltd., Dundee. *Painting work:* M. A. Appleton (Ctrs.), Ltd., Wolverhampton. *Agricultural maintenance work:* J. V. Strong & Co., Ltd., Marlborough; G. O. & W. L. Watts (Crazeley) Ctrs., Ltd., Reading.

¶London (M.O.W.).—Contracts placed by M.O.W. for week ended August 25:—
London: 128-130, West End-la., Hampstead, Conversion to form new B.P.O., Dearsley & Carter, Ltd., 91, King-st., Hammersmith; M.O.W. Supplies Div. Strs., 175, North Circular-rd., Neasden, External decorations to Romney huts, J. W. Green (Painters), Ltd., 171, Graham-rd., S.W.19; Houses of Parliament, Internal decs., Hampton & Sons, Ltd., 8-11, Pall Mall, S.W.1; Foreign Office, Whitehall, Internal painting, F. Troy & Co., Ltd., 131, Gt. Suffolk-st., S.E.1. *Berkshire*: M/S Stores Dept., Burghfield, Internal and external decorations, Fields, Ltd., 246, King's-rd., Reading. *Buckinghamshire*: R.O.C., Amersham, Erection of new workshops and stores, Harry Neal, Ltd., 117, Baker-st., W.1.
Lancashire: M/S Hostel, Kirkby Woods, Old Rough-la., Kirkby, Conversion to hostel, Wm. Tomkinson & Sons, St. Newton-st., Liverpool. *Middlesex*: Former R.O.F., Bourne-av., Hayes, External painting, F. Troy & Sons, Ltd., 131, Gt. Suffolk-st., S.E.1. *Wiltshire*: M/S Storage Depot, Blunsden-st., Andrew, General repairs, Edwin H. Bradley & Son, Ltd., Okus Quarries, Swindon. *Worcestershire*: Cockshott-rd. site, Malvern, Erection of 82 houses, Wheeler & Mansell, Ltd., Lime-st., Evesham.

¶London (War Dept.).—Works contracts placed by W.D. during week ended August 25:—
Omagh: Miscellaneous, Donegall Building Works, Belfast. *Cheshire*: Building work, James Crosby & Sons, Ltd., Hale; Hutting, H. Hampson, Chester. *Salop*: Road work, Asphalt & Public Works, Ltd., Worcester. *Pembrokeshire*: Hutting, George Argent & Co., Pembroke.
Salop: Structural steelwork, Hudson Brown, Ltd., Birmingham. *Durham*: Miscellaneous, Joseph Burnett & Son, Birtley. *Lincolnshire*: Miscellaneous, G. H. Hipkin, Grimsby. *Cumberland*: Painting, Reid Bros., Carlisle. *Hampshire* and *Wiltshire*: Painting, C. A. Hayes & Son (Painters), Ltd., Bristol.
Gloucestershire: Building work, John Simmonds, Gloucester. *Berkshire*: Painting, Hadley & Son (Builders), Ltd., Birmingham. *Surrey*: Roofing, J. G. Tuxford, Woolwich. *London*: Painting, T. H. Kenyon & Son, Ltd., London, W.9. *Sussex*: Building work, T. Wallis & Son (Builders), Ltd., Bexhill-on-Sea. *London*: Roofing, J. J. Etridge, Junior, Ltd., London, E.2.

Mansfield.—Houses for T.C.: *J. E. Baggaley & Sons, £11,434 (8); *G. Day, £8,260 (6); *Thos. Smith & Sons (Mansfield), Ltd., £13,850 (10); *J. A. Wilson, £13,830 (10); *R. A. Ashley, £11,424 (8); *A. Cox, £16,928 (12); and *E. C. Rippon, Ltd., £19,716 (14). (Subject to M.L.G. & P. approval.)

Newcastle-under-Lyme.—Houses at Clayton-rd., for B.C.: *Richards & Woodward, Ltd., £7,266 (6); and *A. Jones (Builders), Ltd., £9,688 (8). (Subject to M.L.G. & P. approval.)

Northwich.—Houses at Leftwich Old Hall estate, for U.D.C.: *Kemps (Contractors), Ltd (25); and *W. E. Jones, Middlewich (25).

Oldbury.—93 houses at Brandhall estate, for T.C.: *Titford Property Co. (Langley), Ltd., £142,580 (subject to M.L.G. & P. approval).

Redcar.—Erection of 110 houses at Lakes estate, for T.C.: *Westfield Estates, Ltd., West-ter., Redcar (12); *Theaker & Co., Ltd., Staithes, Saltburn (24); Sykes Bros., Forth-rd., Redcar (28); *Beavor & Sharp, Cleveland-st., Redcar (6); *King & Sons, Ltd., Westbourne-grove, North Ormesby, Middlesbrough (30); and *Hunt & Tose, Scott-st., Redcar (10).

Ripon.—22 houses at North-rd., for T.C. Plans by P. H. Molneux, M.I.Mun.E.: *Gibson Bros., Upton, Pontefract, Yorks, £26,038.

Rugby.—Houses for R.D.C.:—16 at Wolvey: *J. Hale, Ardern, Ashford-rd., Hinckley, £29,070; 17 at Fosse Way, Strettonen Dunsmore: *G. W. Deeley, Ltd., 27, Avon-st., Upper Stoke, Coventry.

Ryhope.—Important additions including new wards and nurses' home at Ryhope General Hospital, for Newcastle Regional Hospital Brd. P. H. Knighton, Board's Chief A.: *Robert Hudson & Sons (Contractors), Ltd., St. Mark's-cres., Sunderland.

St. Helens.—Erection of hostel for aged persons at Victoria-ave., East Lancashire estate, for B.C. M. Ward, Boro' Engineer, St. Helens, and quantities by Gornall, Wainwright & Co., St. Helens: A. McColl & Son (Builders), Ltd., Cambridge-rd., St. Helens.

Wallsend.—Erection of offices for dry dock dept. of Wallsend Slipway & Engineering Co., Ltd.: *Purdie, Lumsden & Co., Ltd., Oxford-st., Newcastle-on-Tyne.

Warrington.—40 houses at Orford estate, for B.C.: *Direct Labour, £50,866.

Whitehaven.—Erection of eight police houses at Foxhouses-rd., for Cumberland C.C. County A. is J. H. Haughan, 15, Portland-sq., Carlisle: *J. Leslie & Son, Coach-rd., Whitehaven, £17,327.

BOROUGH OF LUTON

ICKNIELD COUNTY SECONDARY MODERN SCHOOL

F. Oliver, A.M.Inst.C.E., Borough Engineer

Illustrated and described on pages 319 to 322 of this issue

ANOTHER CONTRACT by AYGEE

England's Largest Glazing Contractors

LONDON, S.E.1
WATerloo 6314 (10 lines)

Wimbledon.—Erection of 14 flats on various sites for Wimbledon Corporation. *S. A. Gregory (Builders and Contractors), Ltd., Croydon, £18,496.

Wimbledon.—Provision of roads, sewers and ancillary works at West Side Housing estate for Wimbledon Corporation. *W. H. Gaze & Sons, Ltd., Kingston-on-Thames, £22,068.

Wimbledon.—Erection of three blocks of 3-storey flats and three terraces of houses at West Side Housing estate for Wimbledon Corporation. *Beattie and Partners, Ltd., 69, St. Martin's-la., W.C.2, £119,269.

Wrexham.—54 dwellings at Queen's Park estate, for B.C. J. M. Davies, M.I.Mun.E.: †T. Warrington & Sons, Ltd., Ellesmere Port, Cheshire, £59,719.

NEW COMPANIES

THE FOLLOWING NEW COMPANIES, registered in England, have been announced by Jordan and Sons, Ltd., company registration agents.

Frank Budd (Builders), Ltd. (498223.) Regd. Aug. 3, Wyndstay, Pewsey, Wilts. Nom. cap. : £1,000. Dir. : S. Budd.

Michael Baum (Construction), Ltd. (498235.) Regd. Aug. 3, 127, Albert-rd., Middlesbrough, public work contractors, cable layers, bldrs., etc. Nom. cap.: £5,000. Dir.: M. M. Baum, 25, Thackeray-gr., Middlesbrough.

A. J. Such, Ltd. (498284.) Regd. Aug. 7, Holly Villas, Astley Cross, Stourport-on-Severn, bldrs., contractors, etc. Nom.-cap. : £500. Dir. : A. J. Such.

Whar-Dron, Ltd. (498311.) Regd. Aug. 7, Railway Wharf, Keadby, Scunthorpe, Lincs., bldrs. and contractors, etc. Nom. cap. : £5,000. Dir. : J. Wharton, Trentlands, Burton-on-Stather, Scunthorpe.

Wm. J. Clemens, Ltd. (498357.) Regd. Aug. 9, 24, Bridge-rd., Stratford, Essex, bldrs. and contractors, etc. Nom. cap. : £10,000. Dir. : F. R. Clemens, 23, The Crescent, Ilford.

Harman and Fitzpatrick, Ltd. (498346.) Regd. Aug. 9, 149, Albert-rd., Horley, Surrey, bldrs. and bldg. contractors, etc. Nom. cap. : £100. Dir. : E. W. C. Harman.

Morgan and Williams (Swansea), Ltd. (498352.) Regd. Aug. 9, 4, Richards-pl., Swansea, flooring contractors and specialists, etc. Nom. cap. : £1,000. Dir.: A. G. Morgan, 60, Lamb-st., Waun Wen, Swansea.

Vincent (Builders), Ltd. (498432.) Regd. Aug. 11, 25, Newman-st., W.1. Nom. cap. : £500. Sub.: Ethel M. Hubbard, 69, Dresden-rd., N.19.

A. F. Appleton (Wandsworth), Ltd. (498396.) Regd. Aug. 11, 130, Earlsfield-rd., S.W.18, bldrs., bricklayers, etc. Nom. cap. : £100. Dir. : A. P. Appleton.

Bowers and Sims, Ltd. (498468.) Regd. Aug. 14, 1a, Water-st., Fenton, Stoke-on-Trent, bldrs. and plasterers. Nom. cap. : £8,000. Dir. : W. I. Bowers, 61, Stanier-st., Fenton, Stoke-on-Trent.

J. H. Ashworth and Co., Ltd. (498503.) Regd. Aug. 15, 85, Holmfield-rd., St. Annes-on-Sea, bldrs., joiners and plumbers. Nom. cap. : £2,800. Dir. : J. H. Ashworth.

Rother Building Works, Ltd. (498553.) Regd. Aug. 16, 4, Dudley-rd., Tunbridge Wells. Nom. cap. : £1,500. Dir. : F. R. Prowse, Osbourne-hse., South-st., Crowborough, Sussex.

FEDERATION OF MASTER BUILDERS

All members in the South West Region are invited to a CONFERENCE at PAIGNTON

From the 28th to the 30th September (inclusive)

Full details of Conference and also of membership of the Federation can be obtained from:

The Regional Secretary,
Federation of Master Builders,
1, St. Pauls Road, Bristol, 8.
Telephone: 36891/2

BROAD-ACHESON
CELLULAR BLOCKS
save coal - save costs
BROAD & CO. LTD. 4 SOUTH WHARF
LONDON, W.2 · PADdington 7061.

STEEL-CRETE
SUPER-HARD DUSTLESS SURFACES
HAVE BANISHED ALL TROUBLES WITH OLD OR NEW
FLOORS
inspect one that has withstood
HEAVY TRUCKING FOR 25 YEARS
and consult
STEEL-CRETE LTD.
Savoy House, 115/116, Strand, London, W.C.2
Tel.: TEMple Bar 5621

THE ESSEX STEEL SCAFFOLDING Co LTD
SALES, HIRE
ERECTION
CRADLES
SMARTS LANE
LOUGHTON ESSEX
TEL: LOUGHTON 295

Boyle's "Patent Air Pump" Ventilator
OVER TWO MILLION IN USE
ROBERT BOYLE & SON
VENTILATING ENGINEERS
98, HERRIES STREET, KILBURN LANE, W.10
Tel.: LADbroke 2879

WOOD BLOCK FLOORS
STEVENS & ADAMS LTD.
Victoria Works,
Point Pleasant, Wandsworth, S.W.18

W & M NEGUS LTD
Building Contractors
Station Works,
King James St.,
Southwark, S.E.1
Telephone:—
Waterloo 5474
(3 lines)

GALBRAITH
BROTHERS LIMITED
BUILDERS • CONTRACTORS
AND ENGINEERS
Registered & Head Office
61 BARTHOLOMEW CLOSE
LONDON • E.C.1
Telephone: MONarch 7597-8
General Offices:
CRAYFORD BRIDGE • CRAYFORD • KENT
Telephone: Bexley Heath 5651-4